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NEWS 22	Feb 24	PCTGEN now available on STN
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NEWS 25	Feb 26	PCTFULL now contains images
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NEWS 28	Mar 20	EVENTLINE will be removed from STN
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NEWS 30	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 31	Apr 11	Display formats in DGENE enhanced
NEWS 32	Apr 14	MEDLINE Reload
NEWS 33	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 34	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
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=> s neisseria and vaccin?
L1 6807 NEISSERIA AND VACCIN?

=> s l1 and (cinerea or lactamica or elongata or flava or flavescens or polysaccharea or sicca or mucosa or perflava or subflava)
L2 180 L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESCENS OR POLYSACCHAREA OR SICCA OR MUCOSA OR PERFLAVA OR SUBFLAVA)

=> s l2 and heterologous (10a) express?
L3 3 L2 AND HETEROLOGOUS (10A) EXPRESS?

=> d bib ab 1-3

L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2003:97443 CAPLUS
DN 138:149364
TI **Neisseria** adhesins and their use in drug screening and in **vaccines**
IN Arico, Maria; Comanducci, Maurizio
PA Chiron S.p.A., Italy
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003010194	A2	20030206	WO 2002-IB3396	20020726

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI GB 2001-18401	A	20010727	
GB 2001-21591	A	20010906	
GB 2002-11025	A	20020514	

AB NadA, App and ORF40 function as adhesins in N. meningitidis. Adhesion can be modulated by targeting these three proteins. NadA allelic variants are disclosed. Autoproteolytic cleavage of App is disclosed, as is removal of the activity by mutagenesis. App is processed and secreted into culture medium when expressed in E. coli. Mature App proteins are disclosed. Knockout mutants are disclosed. Vesicles from non-Neisserial hosts with **heterologous** adhesin **expression** are disclosed. Thus, the nadA gene was found to be overrepresented in 3 hypervirulent N. meningitidis lineages. It appeared to be a foreign gene present in this subset of hypervirulent strains. NadA was shown to be exposed as an oligomer on the bacteria surface and appears to be involved in bacterial adhesion. NadA was present in at least 50% of disease-assocd. N. meningitidis, it elicited protective and bactericidal antibodies in lab animals, and each allele induced cross-bactericidal antibodies. NadA therefore appears to be a good **vaccine** antigen.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2001:207884 CAPLUS
DN 134:227335
TI Oral recombinant Lactobacillus plantarum **vaccines**
IN Shaw, David Michael; Leer, Robert Jan; Pouwels, Peter
PA Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Neth.
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1084709	A1	20010321	EP 1999-203056	19990917

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

WO 2001021200	A1	20010329	WO 2000-GB3575 20000918

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1212083 A1 20020612 EP 2000-962689 20000918
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

JP 2003509469 T2 20030311 JP 2001-524624 20000918

PRAI EP 1999-203056 A 19990917

WO 2000-GB3575 W 20000918

AB The present invention relates to an oral **vaccine** comprising recombinant lactic acid bacteria **expressing heterologous** antigen in vivo intracellularly and/or the surface of the lactic acid bacterium as specific immunogenicity eliciting component for eliciting immunogenicity against the heterologous antigen, characterized in that the recombinant lactic acid bacterium is a Lactobacillus plantarum. Preferably, the recombinant Lactobacillus plantarum comprises an **expression** vector capable of **expressing** the **heterologous** antigen intracellularly and/or such that the **heterologous** antigen is exposed on the cell surface under conditions present in the gastrointestinal tract. The recombinant Lactobacillus plantarum is preferably a recombinant Lactobacillus plantarum 256. The invention also relates to a recombinant Lactobacillus plantarum, more specifically a recombinant strain of Lactobacillus plantarum 256, for use in the **vaccines** of the invention; as well as to an **expression** vector suitable for intracellular **expression** or exposure of a **heterologous** antigen encoded thereon, said **expression** vector providing **expression** in a Lactobacillus plantarum of the **heterologous** antigen under conditions existing in the gastrointestinal tract.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS

AN 2000:608607 CAPLUS

DN 133:213155

TI Neisserial **vaccine** compositions and methods

IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith

PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board

SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000050074	A2	20000831	WO 2000-GB624	20000222
WO 2000050074	A3	20001228		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

L5 ANSWER 1 OF 3 MEDLINE
AN 2003030510 MEDLINE
DN 22425434 PubMed ID: 12538166
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development.
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G
CS Chiron SpA, Siena, Italy.
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16. Journal code: 7506858. ISSN: 0077-8923.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200303
ED Entered STN: 20030123
Last Updated on STN: 20030305
Entered Medline: 20030304
AB Differential gene regulation in the human pathogen **Neisseria** meningitidis group B (MenB) and in **Neisseria lactamica** , a human **commensal** species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and N. **lactamica**, respectively. Of these, only 167 were common to MenB and N. **lactamica**, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in N. **lactamica**, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili, capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact **Neisseria** undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of **recombinant** proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new **vaccine** candidates.

L5 ANSWER 2 OF 3 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2003-05834 BIOTECHDS
TI Identifying an antigen for manufacturing a **vaccine** against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;
recombinant protein production and use of phage display library for antigen identification useful for **recombinant** **vaccine** preparation
AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R
PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD
PI WO 2002077648 3 Oct 2002
AI WO 2002-GB1399 22 Mar 2002
PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001
DT Patent
LA English
OS WPI: 2003-018958 [01]
AB DERWENT ABSTRACT:

NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a **vaccine** composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a **vaccine** composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for **vaccination** against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for **vaccination** against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.

BIOTECHNOLOGY - Preferred Method: Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is N. **lactamica**, N. **cinerea**, N. **sicca**, N. **subflava**, N. elogata, N. **flavescens**, N. **perflava** or N. **polysaccharea**. The pathogenic bacteria is selected from the Neisseriaceae/Pasteurellaceae family of Gram negative bacteria, particularly N. meningitides. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of N. **lactamica**; (b) contacting the sera with a phage display library comprising the entire N. **lactamica** genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and

characterizing the cloned N. **lactamica** genomic sequence; (e) determining the polypeptide encoded by the N. **lactamica** genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the N. **lactamica** polypeptide antigen with N. meningitidis genomic library to identify the N. meningitidis homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of N. meningitidis cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the N. meningitidis genome database; and (h) identifying as antigens those N. meningitidis polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a **vaccine** composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a **vaccine** composition comprising the nucleic acid sequence and a carrier. In preparing a composition for **vaccination** against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome sequence of a pathogenic **Neisseria**. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred **Vaccine** Composition: The **vaccine** composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The **vaccine** composition further comprises Neisserial outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - **Vaccine**.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens by identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a **vaccine** antigen which may be used in the manufacture of a medicament for **vaccination** against meningococcal infection (claimed). (310 pages)

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 2003:128313 CAPLUS
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development
AU Grifantini, R.; Bartolini, E.; Muzzi, A.; Draghi, M.; Frigimelica, E.; Berger, J.; Randazzo, F.; Grandi, G.
CS Chiron SpA, Siena, Italy
SO Annals of the New York Academy of Sciences (2002), 975(Microarrays, Immune Responses, and Vaccines), 202-216
CODEN: ANYAA9; ISSN: 0077-8923
PB New York Academy of Sciences
DT Journal
LA English
AB Differential gene regulation in the human pathogen **Neisseria**

meningitidis group B (MenB) and in **Neisseria lactamica**
, a human **commensal** species, was studied by whole genome
microarray after bacterial interaction with epithelial cells. Host-cell
contact induced changes in the expression of 347 and 285 genes in MenB and
N. **lactamica**, resp. Of these, only 167 were common to MenB and
N. **lactamica**, suggesting that a different subset of genes is
activated by pathogens and commensals. Change in gene expression was
stable over time in N. **lactamica**, but short-lived in MenB. A
large part (greater than 30%) of the regulated genes encoded proteins with
unknown function. Among the known genes, those coding for pili, capsule,
protein synthesis, nucleotide synthesis, cell wall metab., ATP synthesis,
and protein folding were down-regulated in MenB. Transporters for iron,
chloride and sulfate, some known virulence factors, GAPDH and the entire
pathway of selenocysteine biosynthesis were upregulated. Gene expression
profiling indicates that approx. 40% of the regulated genes encode
putative surface-assocd. proteins, suggesting that upon cell contact
Neisseria undergoes substantial surface remodeling. This was
confirmed by FACS anal. of adhering bacteria using mouse sera against a
subset of **recombinant** proteins. Finally, a few surface-located,
adhesion-activated antigens were capable of inducing bactericidal
antibodies, indicating that microarray technol. can be exploited for the
identification of new **vaccine** candidates.
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, JAPIO, BIOTECHDS, LIFESCI, CAPLUS' ENTERED AT 16:34:01 ON 28 APR 2003

L1 6807 S NEISSERIA AND VACCIN?
L2 180 S L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESC
L3 3 S L2 AND HETEROLOGOUS (10A) EXPRESS?
L4 54 S L2 AND COMMENSAL
L5 3 S L4 AND RECOMBINANT

=> s commensal and nesseria
L6 0 COMMENSAL AND NESSERIA

=> dup rem l4
PROCESSING COMPLETED FOR L4
L7 15 DUP REM L4 (39 DUPLICATES REMOVED)

=> d bib ab 1-15

L7 ANSWER 1 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2003:187972 BIOSIS
DN PREV200300187972
TI Serotype distribution, antibiotic susceptibility, and genetic relatedness of **Neisseria** meningitidis strains recently isolated in Italy.
AU Mastrantonio, Paola (1); Stefanelli, Paola; Fazio, Cecilia; Sofia, Tonino; Neri, Arianna; La Rosa, Giuseppina; Marianelli, Cinzia; Muscillo, Michele; Caporali, Maria Grazia; Salmaso, Stefania
CS (1) Laboratory of Bacteriology and Medical Mycology, Istituto Superiore di Sanita, Viale Regina Elena 299, 00161, Rome, Italy: pmastran@iss.it Italy
SO Clinical Infectious Diseases, (15 February 2003) Vol. 36, No. 4, pp. 422-428. print.
ISSN: 1058-4838.
DT Article
LA English

AB The availability of new polysaccharide-protein conjugate **vaccines** against **Neisseria** meningitidis serogroup C prompted European National Health authorities to carefully monitor isolate characteristics. In Italy, during 1999-2001, the average incidence was 0.4 cases per 100,000 inhabitants. Serogroup B was predominant and accounted for 75% of the isolates, followed by serogroup C with 24%. Serogroup C was isolated almost twice as frequently in cases of septicemia than in cases of meningitis, and the most common phenotypes were C: 2a:P1.5 and C:2b:P1.5. Among serogroup B meningococci, the trend of predominant phenotypes has changed from year to year, with a recent increase in the frequency of B:15:P1.4. Only a few meningococci had decreased susceptibility to penicillin, and, in the penA gene, all of these strains had exogenous DNA blocks deriving from the DNA of **commensal Neisseria flavescens**, **Neisseria cinerea**, and **Neisseria perflava/sicca**. Fluorescent amplified fragment-length polymorphism analysis revealed the nonclonal nature of the strains with decreased susceptibility to penicillin.

L7 ANSWER 2 OF 15 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2003-05834 BIOTECHDS
TI Identifying an antigen for manufacturing a **vaccine** against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;
recombinant protein production and use of phage display library for antigen identification useful for recombinant **vaccine** preparation
AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R
PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD
PI WO 2002077648 3 Oct 2002
AI WO 2002-GB1399 22 Mar 2002
PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001
DT Patent
LA English
OS WPI: 2003-018958 [01]
AB DERWENT ABSTRACT:
NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a **vaccine** composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a **vaccine** composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for **vaccination** against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for **vaccination**

against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.

BIOTECHNOLOGY - Preferred Method: Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is N. **lactamica**, N. **cinerea**, N. **sicca**, N. **subflava**, N. elogata, N. **flavescens**, N. **perflava** or N. **polysaccharea**. The pathogenic bacteria is selected from the Neisseriaceae/Pasteurellaceae family of Gram negative bacteria, particularly N. meningitides. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of N. **lactamica**; (b) contacting the sera with a phage display library comprising the entire N. **lactamica** genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and characterizing the cloned N. **lactamica** genomic sequence; (e) determining the polypeptide encoded by the N. **lactamica** genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the N. **lactamica** polypeptide antigen with N. meningitidis genomic library to identify the N. meningitidis homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a **vaccine** composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of N. meningitidis cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the N. meningitidis genome database; and (h) identifying as antigens those N. meningitidis polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a **vaccine** composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a **vaccine** composition comprising the nucleic acid sequence and a carrier. In preparing a composition for **vaccination** against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome

sequence of a pathogenic **Neisseria**. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred **Vaccine** Composition: The **vaccine** composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The **vaccine** composition further comprises Neisserial outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - **Vaccine**.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens by identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a **vaccine** antigen which may be used in the manufacture of a medicament for **vaccination** against meningococcal infection (claimed). (310 pages)

L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2002:754696 CAPLUS
DN 137:293520
TI Antibody-containing sera for identifying Pathogenic and **commensal** bacteria antigens as **vaccines**
IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; West, David McKay; Oliver, Kerry Jane; Kroll, John Simon; Langford, Paul Richard
PA Microbiological Research Authority, UK; Imperial College Innovations Limited
SO PCT Int. Appl., 310 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002077648	A2	20021003	WO 2002-GB1399	20020322

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI GB 2001-7219 A 20010322

AB The invention provides methods of screening **commensal** and pathogenic bacteria for previously unidentified **vaccine** antigens, based upon identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. Also provided are **vaccine** compns. and methods of prepg. **vaccine** compns. comprising the antigens identified by the screening methods. Antigens and uses thereof are also described.

L7 ANSWER 4 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2002:402588 BIOSIS
DN PREV200200402588

TI **Neisseria lactamica** protects against experimental meningococcal infection.

AU Oliver, Kerry J.; Reddin, Karen M.; Bracegirdle, Philippa; Hudson, Michael J.; Borrow, Ray; Feavers, Ian M.; Robinson, Andrew; Cartwright, Keith; Gorringe, Andrew R. (1)

CS (1) Centre for Applied Microbiology and Research, Salisbury, SP4 0JG: andrew.gorringe@camr.org.uk UK

SO Infection and Immunity, (July, 2002) Vol. 70, No. 7, pp. 3621-3626. print. ISSN: 0019-9567.

DT Article

LA English

AB Immunological and epidemiological evidence suggests that the development of natural immunity to meningococcal disease results from colonization of the nasopharynx by **commensal Neisseria** spp., particularly with N. **lactamica**. We report here that immunization with N. **lactamica** killed whole cells, outer membrane vesicles, or outer membrane protein (OMP) pools and protected mice against lethal challenge by a number of diverse serogroup B and C meningococcal isolates in a model of bacteremic infection. Sera raised to N. **lactamica** killed whole cells, OMPs, or protein pools were found to cross-react with meningococcal isolates of a diverse range of genotypes and phenotypes. The results confirm the potential of N. **lactamica** to form the basis of a **vaccine** against meningococcal disease.

L7 ANSWER 5 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3

AN 2002:484497 BIOSIS

DN PREV200200484497

TI In vitro induction of memory-driven responses against **Neisseria** meningitidis by priming with **Neisseria lactamica**.

AU Sanchez, S.; Troncoso, G.; Criado, M. T.; Ferreiros, C. (1)

CS (1) Departamento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, 15782, Santiago de Compostela: mpcfytc@uscmail.usc.es Spain

SO Vaccine, (26 July, 2002) Vol. 20, No. 23-24, pp. 2957-2963. http://www.elsevier.com/locate/vaccine. print. ISSN: 0264-410X.

DT Article

LA English

AB Natural immunity against **Neisseria** meningitidis is acquired during childhood and youth through successive colonizations by **commensal Neisseria**, carrier N. meningitidis, and other bacterial genera sharing cross-reactive antigens with the meningococci. We have analyzed in mice the ability of **Neisseria lactamica** strains to induce immunological memory so that, upon a later contact with N. meningitidis, quickly raise protective responses against antigens that show cross-reactivity with meningococcal surface proteins. Sera obtained from mice immunized with N. **lactamica** and boosted with N. meningitidis were able to kill meningococci, with bactericidal activities variable depending on the immunizing strains used in the assays. Different mixtures of those sera resulted in higher killing activities, which agrees with the idea that successive colonizations by N. **lactamica** enhance the anti-meningococcal response. The existence of such outer membrane cross-reactive antigens has to be kept in mind when using outer membrane vesicle (OMV)-based anti-meningococcal **vaccines** because their use can affect colonization by N. **lactamica** and other species, hampering the natural mechanisms of acquisition of immunity to the meningococci, and leaving its ecological niche free for colonization by undesirable microorganisms.

L7 ANSWER 6 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4

AN 2002:352603 BIOSIS

DN PREV200200352603
TI NadA, a novel **vaccine** candidate of **Neisseria** meningitidis.
AU Comanducci, Maurizio; Bambini, Stefania; Brunelli, Brunella; Adu-Bobie, Jeannette; Arico, Beatrice; Capecchi, Barbara; Giuliani, Marzia Monica; Masignani, Vega; Santini, Laura; Savino, Silvana; Granoff, Dan M.; Caugant, Dominique A.; Pizza, Mariagrazia; Rappuoli, Rino (1); Mora, Marirosa
CS (1) IRIS, Chiron S.p.A., via Fiorentina 1, 53100, Siena: rino_rappuoli@chiron.it Italy
SO Journal of Experimental Medicine, (June 3, 2002) Vol. 195, No. 11, pp. 1445-1454. http://www.jem.org. print.
ISSN: 0022-1007.
DT Article
LA English
AB **Neisseria** meningitidis is a human pathogen, which, in spite of antibiotic therapy, is still a major cause of mortality due to sepsis and meningitis. Here we describe NadA, a novel surface antigen of N. meningitidis that is present in 52 out of 53 strains of hypervirulent lineages electrophoretic types (ET) ET37, ET5, and cluster A4. The gene is absent in the hypervirulent lineage III, in N. gonorrhoeae and in the **commensal** species N. **lactamica** and N. **cinerea**.
The guanine/cytosine content, lower than the chromosome, suggests acquisition by horizontal gene transfer and subsequent limited evolution to generate three well-conserved alleles. NadA has a predicted molecular structure strikingly similar to a novel class of adhesins (YadA and UspA2), forms high molecular weight oligomers, and binds to epithelial cells in vitro supporting the hypothesis that NadA is important for host cell interaction. NadA induces strong bactericidal antibodies and is protective in the infant rat model suggesting that this protein may represent a novel antigen for a **vaccine** able to control meningococcal disease caused by three hypervirulent lineages.

L7 ANSWER 7 OF 15 MEDLINE DUPLICATE 5
AN 2003030510 MEDLINE
DN 22425434 PubMed ID: 12538166
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development.
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G
CS Chiron SpA, Siena, Italy.
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.
Journal code: 7506858. ISSN: 0077-8923.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200303
ED Entered STN: 20030123
Last Updated on STN: 20030305
Entered Medline: 20030304
AB Differential gene regulation in the human pathogen **Neisseria** meningitidis group B (MenB) and in **Neisseria lactamica**, a human **commensal** species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and N. **lactamica**, respectively. Of these, only 167 were common to MenB and N. **lactamica**, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in N. **lactamica**, but short-lived in MenB.
A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili,

PI WO 2000050074 A2 20000831 WO 2000-GB624 20000222
WO 2000050074 A3 20001228
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1154791 A2 20011121 EP 2000-905182 20000222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002537352 T2 20021105 JP 2000-600684 20000222
US 2003026809 A1 20030206 US 2001-942583 20010831
US 2003021812 A1 20030130 US 2002-185769 20020701
PRAI GB 1999-4028 A 19990222
GB 1999-22561 A 19990923
WO 2000-GB624 W 20000222
US 2001-914041 A1 20010822
AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an ext. of a **commensal Neisseria**. Further methods and compns. comprise **commensal Neisseria** which express genes from virulent strains of **Neisseria** and/or heterologous gene products from non-neisserial sources. Such compns. are used in **vaccine** prepns. for the treatment of microbial infection.

L7 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
AN 2000:228224 BIOSIS
DN PREV200000228224
TI Phosphorylcholine decoration of lipopolysaccharide differentiates **commensal** Neisseriae from pathogenic strains: Identification of licA-type genes in **commensal** Neisseriae.
AU Serino, Laura; Virji, Mumtaz (1)
CS (1) Department of Pathology and Microbiology, School of Medical Sciences, University of Bristol, Bristol, BS8 1TD UK
SO Molecular Microbiology, (March, 2000) Vol. 35, No. 6, pp. 1550-1559. ISSN: 0950-382X.
DT Article
LA English
SL English
AB Phosphorylcholine (ChoP) is a potential candidate for a plurispecific **vaccine**, because it is present on surface components of many mucosal organisms, including Haemophilus influenzae, Streptococcus pneumoniae and Pseudomonas aeruginosa. In addition, ChoP has been detected on pili of **Neisseria** meningitidis and **Neisseria** gonorrhoeae. In this study, we demonstrate the presence of the phosphorylcholine epitope on the lipopolysaccharides (LPSs) of several species of **commensal** Neisseriae (Cn), a property that differentiates **commensal** from the pathogenic strains of Neisseriae. In an extended survey of 78 strains, we confirmed the exclusive expression of the ChoP epitope on pili of pathogenic Neisseriae. Despite the presence of pili on Cn, which are homologous to Class II pili of N. meningitidis, they did not react with anti-ChoP antibody. This observation was further supported by the fact that 14C-labelled choline was incorporated only in the LPSs of Cn. Analysis of the LPS of N. **lactamica** strain NL4 revealed two distinct and interconvertible molecular species of LPS with high and low levels of reactivity with anti-ChoP antibody. In addition, on/off phase variation gave rise to

LA English
SL English
AB Two mouse sera against outer membrane proteins from a pathogenic **Neisseria** meningitidis strain and a **commensal** N. **lactamica** strain and two human sera from patients recovering from meningococcal meningitis were used to identify antigens common to pathogenic and **commensal Neisseria** species. Two major antigens of 55 kDa and 32 kDa, present in all N. meningitidis and N. **lactamica** strains tested, were demonstrable with all the sera used; the 55-kDa protein was iron-regulated. Demonstration of other common antigens was dependent on the serum used: a 65-kDa antigen was visualised with the human and the mouse anti-N. **lactamica** sera; a 37-kDa antigen identified as the meningococcal ferric binding protein (FbpA) was only detected with the mouse sera, and two antigens of 83 kDa and 15 kDa were only shown with the mouse anti-N. meningitidis serum. The results demonstrate the existence of several outer membrane antigens common to N. **lactamica** and N. meningitidis strains, in agreement with the hypothesis that natural immunity against meningitis is partially acquired through colonisation by **commensal** species, and open new perspectives for the design of **vaccine** formulations and the development of strategies for **vaccination** against meningitis.

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 1997:79834 CAPLUS
DN 126:143095
TI Antigenicity, cross-reactivity and surface exposure of the **Neisseria** meningitidis 37 kDa protein (Fbp)
AU Gomez, J. A.; Agra, C.; Ferron, L.; Powell, N.; Pintor, M.; Criado, M. T.; Ferreiros, C. M.
CS Departmento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, Santiago de Compostela, 15701, Spain
SO Vaccine (1996), 14(14), 1340-1346
CODEN: VACCDE; ISSN: 0264-410X
PB Elsevier
DT Journal
LA English
AB The 37 kDa iron-repressible protein, Fbp, was purified from two **Neisseria** meningitidis strains by metal-affinity chromatog. and used to obtain mouse monospecific polyclonal immune sera. Dot-blot, immunoblotting and whole cell ELISA results demonstrate that the Fbp is present in all 16 N. meningitidis and four **commensal Neisseria** species tested, is highly antigenic in mouse when injected in pure form, and shows intra- and inter-species antigenic homogeneity, anti-Fbp antibodies being fully cross-reactive using the techniques mentioned. The authors also found that Fbp mols. (or parts of them) are surface exposed, in disagreement with the proposed exclusively periplasmic localization, although anti-Fbp antibodies seem unable to block iron uptake or to induce complement-mediated killing of the meningococci. Taken along with the high immunogenicity of the purified protein and the complete cross-reactivity of the antibodies elicited, this suggests that the protective effect of the purified Fbp must be further studied to evaluate its inclusion in future **vaccine** trials.

L7 ANSWER 14 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 10
AN 1993:165858 BIOSIS
DN PREV199395086908
TI Localization of the meningococcal receptors for human transferrin.
AU Ala'aldeen, Dlawer A. A. (1); Powell, Nicholas B. L.; Wall, Robert A.; Borriello, S. Peter
CS (1) Microbial Pathogenicity Res. Group, Dep. Microbiol., Queen's Med. Cent., Nottingham NG7 2UH UK

SO Infection and Immunity, (1993) Vol. 61, No. 2, pp. 751-759.
ISSN: 0019-9567.
DT Article
LA English
AB The interaction between gold-labelled human transferrin (Au-HTF) with live meningococci (**Neisseria** meningitidis) after growth in vivo or in different in vitro conditions was examined by electron microscopy to localize and quantify the numbers of HTF-binding sites on the cell surface. It was clearly demonstrated that HTF binds to the surface of live meningococci (of different serogroups and serotypes) after growth in either iron-sufficient or iron-restricted cultures, although the degree of labelling was always higher (2- to 35-fold) in the latter case. The **commensal Neisseria** polysaccharae behaved similarly.
Ultrathin sections showed that Au-HTF was localized predominantly on the outer membrane of the cells and vesicles, with hardly any internalization. Au-HTF labelled on meningococci was significantly reduced after incubation with unlabelled HTF or with rabbit antiserum containing antibodies against transferrin-binding proteins (TBPs), demonstrating the specificity of the interaction. These sera also blocked binding between HTF and outer membrane proteins on Western immunoblots. Direct evidence of the expression of the TBPs (Western blots) and localization of the HTF receptor (electron microscopy) on in vivo-grown meningococci was obtained from organisms derived without laboratory culturing from the cerebrospinal fluid of a patient. There was considerable cell-to-cell variation in the amount of labelling present on cells of the same sample (in vitro- or in vivo-grown organisms) and between different strains. The degree of binding varied with time of incubation of the cells with Au-HTF. The gold particles frequently formed discrete circles on the cell surfaces of the in vitro-grown organisms; these circles appear to be associated with outer membrane vesicle formation. The results show that the TBPs, which form part of the active components of the HTF receptor(s), are expressed in vivo and are surface exposed and immunogenic and that antibodies against them can interfere with the HTF binding of the meningococcal cells, which may affect iron utilization. This study further supports the concept of regarding the TBPs as future **vaccine** candidates.

L7 ANSWER 15 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
AN 1989:515705 BIOSIS
DN BA88:131848
TI DETECTION OF ANTIBODIES TO COMMON ANTIGENS OF PATHOGENIC AND **COMMENSAL NEISSERIA** SPECIES.
AU CANN K J; ROGERS T R
CS DEP. MED. MICROBIOLOGY, CHARING CROSS WESTMINSTER MED. SCH., 17 HORSEFERRY ROAD, LONDON SW1.
SO J MED MICROBIOL, (1989) 30 (1), 23-32.
CODEN: JMMIAV. ISSN: 0022-2615.
FS BA; OLD
LA English
AB Sera from 29 children and six adults were used to investigate the nature of antigenic cross-reactivity between **Neisseria polysaccharea**, N. **lactamica** and N. meningitidis B,15P1.16 by immunoblotting. Major common antigens of 68-70 Kda, 60-65 Kda and 15-20 Kda were detected. Antibody directed against them uniformly decreased after absorption of the sera with the three different **Neisseria** species. Antigens of 55 Kda and 35 Kda specific to N. meningitidis, and one of 43 Kda specific to N. **lactamica**, were also demonstrated. Antibody against all antigens was more prevalent in bactericidal than in non-bactericidal sera, although these differences were statistically not significant. Differences in antibody prevalence between carriers of **Neisseria** spp. and non-carriers of these organisms were even less marked. Examination of sera by whole-cell enzyme-linked immunosorbent assay against N. meningitidis B,15P1.16 and N.

lactamica gave an absorbance ratio of 1:1. Only four sera from children showed no reactivity against the meningococcal strain. These common antigens are likely to be important in **vaccine** development.

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=> s neisseria and commensal
L8          592 NEISSERIA AND COMMENSAL

=> s l8 and heterologous (10a) express?
L9            1 L8 AND HETEROLOGOUS (10A) EXPRESS?

=> d bib

L9   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:608607  CAPLUS
DN   133:213155
TI   Neisserial vaccine compositions and methods
IN   Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John;
     Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith
PA   Microbiological Research Authority, UK; Imperial College School of
     Science, Technology and Medicine; Public Health Laboratory Service Board
SO   PCT Int. Appl., 35 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   WO 2000050074      A2    20000831       WO 2000-GB624    20000222
     WO 2000050074      A3    20001228
         W:  AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
             CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
             IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
             MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
             SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     EP 1154791         A2    20011121       EP 2000-905182   20000222
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     JP 2002537352      T2    20021105       JP 2000-600684   20000222
     US 2003026809      A1    20030206       US 2001-942583   20010831
     US 2003021812      A1    20030130       US 2002-185769   20020701
PRAI GB 1999-4028       A     19990222
     GB 1999-22561      A     19990923
     WO 2000-GB624      W     20000222
     US 2001-914041     A1    20010822


=> s neisserial vaccin? and heterologous
L10          2 NEISSERIAL VACCIN? AND HETEROLOGOUS

=> d bib ab 1-2

L10  ANSWER 1 OF 2  BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN   2000-14107  BIOTECHDS
TI   Novel method for the treatment of microbial infection, particularly
     meningococcal disease, using Neisserial vaccine;
        meningitis infection therapy and vaccination
AU   Robinson A; Gorringe A R; Hudson M J; Bracegirdle P; Kroll J S;
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Cartwright K
PA Cent.Appl.Microbiol.Res.Porton-Down; Univ.London; Public-Health-Lab.U.K.
LO Salisbury, UK; London, UK.
PI WO 2000050074 31 Aug 2000
AI WO 2000-GB624 22 Feb 2000
PRAI GB 99022561 23 Sep 1999; GB 1999-4028 22 Feb 1999
DT Patent
LA English
OS WPI: 2000-549378 [50]
AB A novel vaccine composition (I) with a commensal Neisseria sp. or an immunogenic component, extract or derivative of, is claimed. Also claimed are: a composition for eliciting an immune response and suitable for use in vaccinating an individual against neisserial infection, using an antigenic component having the properties; mol.wt. 40,000-90,000 or 70,000; obtainable from commensal Neisseria sp.; and antibodies against the component cross-reacting with Neisseria meningitidis K454; a method of extracting a protein for incorporation in a composition suitable for vaccinating against meningococcal disease, by suspending Neisseria sp. cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells; a vector with a gene coding for a **heterologous** gene product; a Neisseria sp. host cell for transformation with the vector; and obtaining an immunogenic component or extract from the culture of the Neisseria sp. host cell. The vaccines are used to protect against microbial infections, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. (35pp)

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2000:608607 CAPLUS
DN 133:213155
TI **Neisserial vaccine** compositions and methods
IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith
PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000050074	A2	20000831	WO 2000-GB624	20000222
	WO 2000050074	A3	20001228		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1154791	A2	20011121	EP 2000-905182	20000222
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002537352	T2	20021105	JP 2000-600684	20000222
	US 2003026809	A1	20030206	US 2001-942583	20010831
	US 2003021812	A1	20030130	US 2002-185769	20020701
PRAI	GB 1999-4028	A	19990222		
	GB 1999-22561	A	19990923		
	WO 2000-GB624	W	20000222		
	US 2001-914041	A1	20010822		

AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal Neisseria or an ext. of a commensal Neisseria. Further methods and compns. comprise commensal Neisseria which express genes from virulent strains of Neisseria and/or **heterologous** gene products from non-neisserial sources. Such compns. are used in vaccine prepns. for the treatment of microbial infection.

=> d his

(FILE 'HOME' ENTERED AT 16:32:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, JAPIO, BIOTECHDS, LIFESCI, CAPLUS' ENTERED AT 16:34:01 ON 28 APR 2003

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L1          6807 S NEISSERIA AND VACCIN?
L2           180 S L1 AND (CINEREA OR LACTAMICA OR ELONGATA OR FLAVA OR FLAVESC
L3             3 S L2 AND HETEROLOGOUS (10A) EXPRESS?
L4            54 S L2 AND COMMENSAL
L5             3 S L4 AND RECOMBINANT
L6             0 S COMMENSAL AND NESSERIA
L7            15 DUP REM L4 (39 DUPLICATES REMOVED)
L8           592 S NEISSERIA AND COMMENSAL
L9             1 S L8 AND HETEROLOGOUS (10A) EXPRESS?
L10            2 S NEISSERIAL VACCIN? AND HETEROLOGOUS

=> s l8 and recombinant
L11           26 L8 AND RECOMBINANT

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12           17 DUP REM L11 (9 DUPLICATES REMOVED)

=> d bib ab 1-17

L12  ANSWER 1 OF 17     MEDLINE                          DUPLICATE 1
AN   2003141627     IN-PROCESS
DN   22543387   PubMed ID: 12657800
TI   Purification, characterization and preliminary X-ray crystallographic
     studies on Neiserria gonorrhoeae Gly1ORF1.
AU   Arvidson Dennis N; Pearson Robert F; Arvidson Cindy Grove
SO   ACTA CRYSTALLOGRAPHICA. SECTION D: BIOLOGICAL CRYSTALLOGRAPHY, (2003 Apr)
     59 (Pt 4) 747-8.
     Journal code: 9305878. ISSN: 0907-4449.
CY   Denmark
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   IN-PROCESS; NONINDEXED; Priority Journals
ED   Entered STN: 20030327
     Last Updated on STN: 20030327
```

AB Gly1ORF1 is a protein produced by the two pathogenic **Neisseria** species, N. gonorrhoeae and N. meningitidis, but not by **commensal Neisseria**, suggesting that it may be involved in pathogenesis. The protein has a signal sequence that is cleaved, is associated with outer membrane fractions of N. gonorrhoeae (GC) and is found in spent media and in outer-membrane fractions when expressed in Escherichia coli. GC strains with null mutations of the gly1 locus have increased toxicity to human fallopian tubes in organ culture, suggesting that Gly1ORF1 may alter the amount or properties of toxic moieties produced by GC [Arvidson et al. (1999), infect. Immun. 67, 643-652]. In an effort to understand the function of Gly1ORF1 and its role in pathogenesis, structural biology studies have been initiated. Here, the purification, characterization by dynamic light scattering, crystallization and preliminary X-ray

crystallographic studies of **recombinant** Gly1ORF1 are reported. Dynamic light scattering indicated the protein to be a dimer in solution. The crystals belonged to space group P6(3), with unit-cell parameters a = 95.2, b = 95.2, c = 83.7 A and two molecules per asymmetric unit. The crystals diffracted to 2.4 A using a conventional X-ray source.

L12 ANSWER 2 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2003-05834 BIOTECHDS
TI Identifying an antigen for manufacturing a vaccine against meningococcal infection, comprises contacting antibodies with polypeptides, detecting polypeptide-antibody complexes, and identifying bound polypeptides as antigens;
recombinant protein production and use of phage display library for antigen identification useful for **recombinant** vaccine preparation
AU ROBINSON A; GORRINGE A R; HUDSON M J; BRACEGIRDLE P; WEST D M; OLIVER K J; KROLL J S; LANGFORD P R
PA MICROBIOLOGICAL RES AUTHORITY; IMPERIAL COLLEGE INNOVATIONS LTD
PI WO 2002077648 3 Oct 2002
AI WO 2002-GB1399 22 Mar 2002
PRAI GB 2001-7219 22 Mar 2001; GB 2001-7219 22 Mar 2001
DT Patent
LA English
OS WPI: 2003-018958 [01]
AB DERWENT ABSTRACT:
NOVELTY - Identifying an antigen comprises: (a) obtaining antibodies against a **commensal** bacteria, or an extract from a **commensal** bacteria; (b) contacting the antibodies with polypeptides obtained from an expression library of either a **commensal** or a pathogenic bacteria; (c) determining whether the polypeptides bind to antibodies; and (d) (where a polypeptide binds to an antibody) identifying that polypeptide as an antigen.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for: (1) a method of preparing a vaccine composition, comprising identifying an antigen with the above method, and combining the antigen with a carrier; (2) a vaccine composition obtained by the above methods; (3) an antigen identified by the above methods; (4) a polypeptide encoded by all or a part of a nucleic acid sequence comprising any of the 25 fully defined sequences of 165-2814 bp (S1) given in the specification; (5) an isolated nucleic acid molecule comprising S1; (6) a vector comprising the nucleic acid molecule; (7) a method of preparing a composition for vaccination against infection by pathogenic bacteria, comprising: (a) obtaining a first antigen from a **commensal Neisseria**; (b) comparing the amino acid sequence of the first antigen with the amino acid sequence of the second antigen from a pathogenic bacteria, or comparing the sequence of a nucleic acid which codes for the first antigen with the sequence of the nucleic acid that codes for the second antigen; and if the first antigen is homologous to the second antigen or if the nucleic acid sequence for the first antigen is homologous to that of the second antigen, and (c) preparing a composition for vaccination against bacterial infection comprising the first antigen; (8) an antibody that binds to the polypeptide antigen; and (9) a pharmaceutical composition comprising the antibody.

BIOTECHNOLOGY - Preferred Method: Identifying an antigen further comprises the step of isolating a clone that expresses the antigen from the expression library. This step comprises: (a) identifying the molecular weight of the polypeptide that binds to the antibody in the sera; (b) correlating the molecular weight with the molecular weights of the polypeptides encoded by the genome of the bacteria from which the polypeptide is derived; and (c) determining an identity for the polypeptide and the corresponding nucleic acid encoding the polypeptide. The molecular weight of the polypeptide is determined via mass spectrometry, electrophoresis or chromatography. The polypeptides are

displayed in the form of a phage display library, and the clone that expresses the polypeptide antigen is located within the phagemid vector. The phage display library is in lambda phage. Deriving the expression library from a **commensal Neisseria** bacterial genome, comprises using the nucleic acid of the isolated clone encoding the polypeptide antigen from the **commensal** bacteria to identify homologous sequences in pathogenic bacteria, and cloning the homologous sequences from the pathogenic bacteria to generate the equivalent pathogenic bacterial polypeptide antigen. The **commensal Neisseria** is N. lactamica, N. cinerea, N. sicca, N. subflava, N. elogata, N. flavescens, N. perflava or N. polysaccharea. The pathogenic bacteria is selected from the Neisseriaceae/Pasteurellaceae family of Gram negative bacteria, particularly N. meningitides. The sera is raised against the whole **commensal** bacterial cells or a protein extract from **commensal** bacterial cells. The protein extract is an outer membrane protein extract. The sera is purified to be enriched for immunoglobulin (Ig)G. Identifying an antigen suitable for inclusion in a vaccine composition, comprises: (a) obtaining sera raised against an outer membrane protein extract of N. lactamica; (b) contacting the sera with a phage display library comprising the entire N. lactamica genome; (c) identifying a phage that tests positive for a binding interaction with the sera, and isolating the positive phage; (d) extracting the phagemid vector from the positive phage and characterizing the cloned N. lactamica genomic sequence; (e) determining the polypeptide encoded by the N. lactamica genomic sequence and identifying the polypeptide as an antigen; and (f) comparing the sequence of the N. lactamica polypeptide antigen with N. meningitidis genomic library to identify the N. meningitidis homologue polypeptide antigen. Alternatively, identifying an antigen suitable for inclusion in a vaccine composition, comprises: (a) step (a) of the same method; (b) isolating the IgG component of the sera; (c) binding the isolated IgG to a solid phase; (d) contacting the bound IgG with polypeptides obtained from an extract of N. meningitidis cells; (e) isolating solid phase-IgG-polypeptide complexes that are formed by the binding of polypeptides to IgG; (f) analyzing solid phase-IgG-polypeptide complexes via SELDI mass spectrometry; (g) correlating molecular weights obtained for the polypeptide from (f) with molecular weights of known and putative polypeptides from the N. meningitidis genome database; and (h) identifying as antigens those N. meningitidis polypeptides encoded by genes determined from the correlated molecular weights of (g). Preparing a vaccine composition further comprises obtaining the nucleic acid sequence that encodes the antigen, and preparing a vaccine composition comprising the nucleic acid sequence and a carrier. In preparing a composition for vaccination against infection by pathogenic bacteria, the second antigen is derived from a library of antigens from a pathogenic bacteria, or the nucleic acid sequence coding for the second antigen is derived from a library of nucleic acid sequences coding for antigens from a pathogenic bacteria. The **commensal** nucleic acid sequence is compared with a genome sequence of a pathogenic **Neisseria**. Preferred Polypeptide: The polypeptide antigen is expressed from all or part of the nucleic acid cited above or from a nucleic acid sequence having at least 90% homology with S1. The polypeptide comprises any of the 26 fully defined sequences of 9-938 amino acids (S2) given in the specification. Preferred Vaccine Composition: The vaccine composition comprises the polypeptide having S2, the polypeptide having any of the 74 fully defined sequences of amino acids given in the specification, or the polypeptide expressed from all or part of S1 or the nucleotide sequence comprising any of the 71 fully defined sequences given in the specification, and a carrier. The vaccine composition further comprises Neisserial outer membrane vesicles (OMVs).

ACTIVITY - Bactericide. No biological data given.

MECHANISM OF ACTION - Vaccine.

USE - The method is useful in screening **commensal** and pathogenic bacteria for previously unidentified vaccine antigens by

identifying polypeptide antigens that bind to sera raised against **commensal** bacterial proteins. The polypeptide is useful as a vaccine antigen which may be used in the manufacture of a medicament for vaccination against meningococcal infection (claimed). (310 pages)

L12 ANSWER 3 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:392656 BIOSIS
DN PREV200200392656
TI Genetic diversity of three lgt loci for biosynthesis of lipooligosaccharide (LOS) in **Neisseria** species.
AU Zhu, Peixuan (1); Klutch, Michael J.; Bash, Margaret C.; Tsang, Raymond S. W.; Ng, Lai-King; Tsai, Chao-Ming
CS (1) Division of Bacterial, Parasitic and Allergenic Products, Center for Biologics Evaluation and Research, FDA, 8800 Rockville Pike, Bethesda, MD, 20892: Zhu@cber.fda.gov USA
SO Microbiology (Reading), (June, 2002) Vol. 148, No. 6, pp. 1833-1844. print.
ISSN: 1350-0872.
DT Article
LA English
AB Lipooligosaccharide (LOS) is a major virulence factor of the pathogenic **Neisseria**. Nine lgt genes at three chromosomal loci (lgt-1, 2, 3) encoding the glycosyltransferases responsible for the biosynthesis of LOS oligosaccharide chains were examined in 26 **Neisseria** meningitidis, 51 **Neisseria** gonorrhoeae and 18 **commensal** **Neisseria** strains. DNA hybridization, PCR and nucleotide sequence data were compared to previously reported lgt genes. Analysis of the genetic organization of the lgt loci revealed that in N. meningitidis, the lgt-1 and lgt-3 loci were hypervariable genomic regions, whereas the lgt-2 locus was conserved. In N. gonorrhoeae, no variability in the composition or organization of the three lgt loci was observed. lgt genes were detected only in some **commensal** **Neisseria** species. The genetic organization of the lgt-1 locus was classified into eight types and the lgt-3 locus was classified into four types. Two types of arrangement at lgt-1 (II and IV) and one type of arrangement at lgt-3 (IV) were novel genetic organizations reported in this study. Based on the three lgt loci, 10 LOS genotypes of N. meningitidis were distinguished. Phylogenetic analysis revealed a gene cluster, lgtH, which separated from the homologous genes lgtB and lgtE. The lgtH and lgtE genes were mutually exclusive and were located at the same position in lgt-1. The data demonstrated that pathogenic and **commensal** **Neisseria** share a common lgt gene pool and horizontal gene transfer appears to contribute to the genetic diversity of the lgt loci in **Neisseria**

L12 ANSWER 4 OF 17 MEDLINE DUPLICATE 2
AN 2003030510 MEDLINE
DN 22425434 PubMed ID: 12538166
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria** lactamica upon host-cell contact: from basic research to vaccine development.
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G
CS Chiron SpA, Siena, Italy.
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16.
Journal code: 7506858. ISSN: 0077-8923.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200303
ED Entered STN: 20030123
Last Updated on STN: 20030305

Entered Medline: 20030304

AB Differential gene regulation in the human pathogen **Neisseria** meningitidis group B (MenB) and in **Neisseria** lactamica, a human **commensal** species, was studied by whole genome microarray after bacterial interaction with epithelial cells. Host-cell contact induced changes in the expression of 347 and 285 genes in MenB and N. lactamica, respectively. Of these, only 167 were common to MenB and N. lactamica, suggesting that a different subset of genes is activated by pathogens and commensals. Change in gene expression was stable over time in N. lactamica, but short-lived in MenB. A large part (greater than 30%) of the regulated genes encoded proteins with unknown function. Among the known genes, those coding for pili, capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact **Neisseria** undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of **recombinant** proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new vaccine candidates.

L12 ANSWER 5 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AN 2002-02161 BIOTECHDS

TI Non-neisserial cells useful in manufacturing of vaccines without the loss of antigenicity of the native protein, against meningococcal diseases such as meningitis, express a **recombinant** neisserial iron uptake protein;
plasmid pMTL2010-mediated **Neisseria** meningitidis transferrin binding protein gene transfer and expression in Escherichia coli for **recombinant** vaccine and infection therapy

AU Gorringe A R; Hudson M J; Matheson M A; Robinson A; West D M

PA Cent.Appl.Microbiol.Res.Porton-Down

LO Salisbury, UK.

PI WO 2001073080 4 Oct 2001

AI WO 2001-GB1348 27 Mar 2001

PRAI GB 2000-7433 27 Mar 2000

DT Patent

LA English

OS WPI: 2001-616522 [71]

AB A non-neisserial cell (I, e.g. Escherichia coli) expressing a neisserial (e.g. **Neisseria** meningitidis K454) iron uptake protein (II), where (II) can be extracted from the cell under mild conditions and retains substantially the antigenicity of native iron uptake protein is claimed. Also claimed are: a cell over-expressing (II), where (II) is located in an outer surface membrane of the cell; producing (II) involves: expressing a **recombinant** iron uptake protein (preferably transferrin binding protein (Tbp)) gene in a non-neisserial cell host or in a **commensal** pathogenic neisserial host; expressing the protein; and translocating the protein to a surface membrane of the host; preparing a vaccine by obtaining (II); an expression construct (e.g. plasmid pMTL2010) containing a DNA sequence encoding an iron uptake protein and a signal peptide sequence directing the expressed protein to a surface membrane of the host; an affinity matrix for the purification of Tbps; and producing a neisserial Tbp. (I) is useful in the manufacture of Tbp. Tbp is useful as **recombinant** vaccines to treat gonococcal or meningococcal diseases such as meningitis. (57pp)

L12 ANSWER 6 OF 17 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

AN 2001314723 EMBASE
TI Prospects offered by genome studies for combating meningococcal disease by vaccination.
AU Suker J.; Feavers I.M.
CS J. Suker, Division of Bacteriology, Natl. Inst. Biol. Standards/Control, Blanche Lane, South Mimms, Potters Bar, Herts. EN6 3QG, United Kingdom. jsuker@nibsc.ac.uk
SO Pharmacogenomics, (2001) 2/3 (273-283).
Refs: 84
ISSN: 1462-2416 CODEN: PARMFL
CY United Kingdom
DT Journal; General Review
FS 004 Microbiology
005 General Pathology and Pathological Anatomy
017 Public Health, Social Medicine and Epidemiology
026 Immunology, Serology and Transplantation
030 Pharmacology
037 Drug Literature Index
LA English
SL English
AB Meningococcal disease was first recognised and **Neisseria** meningitidis isolated as the causative agent over 100 years ago, but despite more than a century of research, attempts to eliminate this distressing illness have so far been thwarted. The main problem lies in the fact that N. meningitidis usually exists as a harmless **commensal** inhabitant of the human nasopharynx, the pathogenic state being the exception rather than the norm. As man is its only host, the meningococcus is uniquely adapted to this ecological niche and has evolved an array of mechanisms for evading clearance by the human immune response. Progress has been made in combating the disease by developing vaccines that target specific pathogenic serogroups of meningococci. However, a fully comprehensive vaccine that protects against all pathogenic strains is still just beyond reach. The publication of the genome sequences of two meningococcal strains, one each from serogroups A and B and the imminent completion of a third illustrates the extent of the problems to be overcome, namely the vast array of genetic mechanisms for the generation of meningococcal diversity. Fortunately, genome studies also provide new hope for solutions to these problems in the potential for a greater understanding of meningococcal pathogenesis and possibilities for the identification of new vaccine candidates. This review describes some of the approaches that are currently being used to exploit the information from meningococcal genome sequences and seeks to identify future prospects for combating meningococcal disease.

L12 ANSWER 7 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:334189 BIOSIS
DN PREV200100334189
TI Analysis of the expression of the putatively virulence-associated neisserial protein RmpM (class 4) in **commensal Neisseria** and Moraxella catarrhalis strains.
AU Troncoso, Gemma; Sanchez, Sandra; Kolberg, Jan; Rosenqvist, Einar; Veiga, Manuel; Ferreiros, Carlos M.; Criado, Maria-Teresa (1)
CS (1) Departamento de Microbiologia, Facultad de Farmacia, Universidad de Santiago de Compostela, 15706, Santiago: mpcfytc@uscmail.usc.es Spain
SO FEMS Microbiology Letters, (30 May, 2001) Vol. 199, No. 2, pp. 171-176. print.
ISSN: 0378-1097.
DT Article
LA English
SL English
AB The RmpM protein has been reported to be present only in pathogenic **Neisseria** species. In the present study we demonstrate that this protein is also present at least in N. lactamica and N. sicca strains. The

N. lactamica protein reacts with a RmpM-specific monoclonal antibody (185,H-8), having a molecular mass (apprx31 kDa) slightly lower than that of the meningococcal RmpM, and mouse antibodies from sera against outer membrane vesicles from both N. lactamica and N. sicca strains cross-react with the meningococcal RmpM. PCR and hybridization experiments with a complete rmpM probe agree with the immunodetection experiments. Our results strongly suggest that the meningococcal RmpM should not be considered a virulence marker, and the presence of this protein in the **commensal** species agrees with its role as a structural protein, proposed for the RmpM, which should be considerably conserved in the **Neisseria** species.

L12 ANSWER 8 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2001-02703 BIOTECHDS
TI Composition having genetically modified live oral **commensal** bacteria which express immuogenic fragments of mucosal pathogens, used as oral vaccines to treat host against Bordetella pertussis, polio virus infection;
recombinant vaccine construction by e.g. pathogen antigen surface display on Streptococcus sp.
AU Lee S F; Halperin S A
PA Univ.Dalhousie
LO Halifax, Nova Scotia, Canada.
PI WO 2000064457 2 Nov 2000
AI WO 2000-US10954 21 Apr 2000
PRAI US 1999-298135 23 Apr 1999
DT Patent
LA English
OS WPI: 2000-687261 [67]
AB A composition (I) for stimulating protection against infection by a pathogen, comprising a live **commensal** oral organism (II) genetically modified to express multiple immunogenic fragments of the pathogen, is claimed. The **commensal** oral organism is preferably a bacterium expressing immunogenic fragment(s) of one or more pathogens, such as a mucosal pathogen such as Bordetella pertussis. The pathogen is preferably Bordetella pertussis, respiratory-syncytial virus, polio virus, Mycoplasma pneumoniae, Meningococcus, diphtheriae, Clostridium tetani, hepatitis B virus, **Neisseria** gonorrhoeae, Haemophilus influenzae, Chlamydia pneumoniae, Chlamydia trachomatis, Moraxella catarrhalis and the vaccine is a live **recombinant** vaccine. (52pp)

L12 ANSWER 9 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 2000-14107 BIOTECHDS
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial vaccine;
meningitis infection therapy and vaccination
AU Robinson A; Gorringe A R; Hudson M J; Bracegirdle P; Kroll J S; Cartwright K
PA Cent.Appl.Microbiol.Res.Porton-Down; Univ.London; Public-Health-Lab.U.K.
LO Salisbury, UK; London, UK.
PI WO 2000050074 31 Aug 2000
AI WO 2000-GB624 22 Feb 2000
PRAI GB 99022561 23 Sep 1999; GB 1999-4028 22 Feb 1999
DT Patent
LA English
OS WPI: 2000-549378 [50]
AB A novel vaccine composition (I) with a **commensal** **Neisseria** sp. or an immunogenic component, extract or derivative of, is claimed. Also claimed are: a composition for eliciting an immune response and suitable for use in vaccinating an individual against neisserial infection, using an antigenic component having the properties; mol.wt. 40,000-90,000 or 70,000; obtainable from **commensal**

Neisseria sp.; and antibodies against the component cross-reacting with **Neisseria** meningitidis K454; a method of extracting a protein for incorporation in a composition suitable for vaccinating against meningococcal disease, by suspending **Neisseria** sp. cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells; a vector with a gene coding for a heterologous gene product; a **Neisseria** sp. host cell for transformation with the vector; and obtaining an immunogenic component or extract from the culture of the **Neisseria** sp. host cell. The vaccines are used to protect against microbial infections, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. (35pp)

L12 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS
AN 2001:204511 CAPLUS
DN 135:2015
TI Degradation of heme in gram-negative bacteria: the product of the hemO gene of Neisseriae is a heme oxygenase
AU Zhu, Wenming; Wilks, Angela; Stojiljkovic, Igor
CS Department of Microbiology and Immunology, Emory School of Medicine, Atlanta, GA, 30322, USA
SO Journal of Bacteriology (2000), 182(23), 6783-6790
CODEN: JOBAAY; ISSN: 0021-9193
PB American Society for Microbiology
DT Journal
LA English
AB A full-length heme oxygenase gene from the gram-neg. pathogen **Neisseria** meningitidis was cloned and expressed in Escherichia coli. Expression of the enzyme yielded sol. catalytically active protein and caused accumulation of biliverdin within the E. coli cells. The purified HemO forms a 1:1 complex with heme and has a heme protein spectrum similar to that previously reported for the purified heme oxygenase (HmuO) from the gram-pos. pathogen Corynebacterium diphtheriae and for eukaryotic heme oxygenases. The overall sequence identity between HemO and these heme oxygenases is, however, low. In the presence of ascorbate or the human NADPH cytochrome P 450 reductase system, the heme-HemO complex is converted to ferric-biliverdin IX.alpha. and carbon monoxide as the final products. Homologs of the hemO gene were identified and characterized in six **commensal Neisseria** isolates, **Neisseria** lactamica, **Neisseria** subflava, **Neisseria** flava, **Neisseria** polysaccharheae, **Neisseria** kochii, and **Neisseria** cinerea. All HemO orthologs shared between 95 and 98% identity in amino acid sequences with functionally important residues being completely conserved. This is the first heme oxygenase identified in a gram-neg. pathogen. The identification of HemO as a heme oxygenase provides further evidence that oxidative cleavage of the heme is the mechanism by which some bacteria acquire iron for further use.
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:248225 BIOSIS
DN PREV199900248225
TI Hypermutation in pathogenic bacteria: Frequent phase variation in meningococci is a phenotypic trait of a specialized mutator biotype.
AU Bucci, Cecilia; Lavitola, Alfredo; Salvatore, Paola; Del Giudice, Luigi; Massardo, Domenica Rita; Bruni, Carmelo B. (1); Alifano, Pietro
CS (1) Dipartimento di Biologia e Patologia, Cellulare e Molecolare "L. Califano", Centro di Endocrinologia ed Oncologia Sperimentale "G. Salvatore" of the Consiglio Nazionale delle Ricerche, Universita di Napoli "Federico II", Via S. Pansini 5, 80131, Napoli Italy

conserved and a **neisseria**-unique antigenic Hsp60 determinant, respectively, could thus be deduced to result from single amino acid substitutions. Analysis of the antibody response in patients' sera demonstrated reactivity with the same fusion polypeptides in six out of nine sera, indicating that neisserial Hsp60 is expressed during the natural infection and that distinct domains on the protein are immunodominant in vivo.

L12 ANSWER 15 OF 17 MEDLINE
AN 95020543 MEDLINE
DN 95020543 PubMed ID: 7934834
TI A novel determinant (comA) essential for natural transformation competence in **Neisseria** gonorrhoeae and the effect of a comA defect on pilin variation.
AU Facius D; Meyer T F
CS Max-Planck-Institut fur Biologie, Abteilung Infektionsbiologie, Tubingen, Germany.
SO MOLECULAR MICROBIOLOGY, (1993 Nov) 10 (4) 699-712.
Journal code: 8712028. ISSN: 0950-382X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199411
ED Entered STN: 19941222
Last Updated on STN: 19990129
Entered Medline: 19941121
AB A novel genetic determinant (comA) has been identified and found to be required for the transformation of piliated **Neisseria** gonorrhoeae. Mutants in comA of strain MS11 grow normally and are DNA-uptake proficient but blocked in the translocation of DNA into the cytoplasm. Here we show by site-specific mutagenesis and genetic complementation that only one of two open reading frames identified in comA is essential for competence: it encodes a protein (ComA) with a predicted size of 74 kDa. The comA gene maps upstream of the iga locus and is transcribed in the opposite orientation, probably under the control of a putative sigma 54-type promoter. While DNA probes specific for the N. gonorrhoeae iga locus reveal only a little cross-reactivity with **commensal Neisseria** species, the neighbouring comA gene appears to be present in most of them. ComA fusion proteins were obtained by in vitro translation. The synthesized gene products migrated atypically in SDS gels indicating its strong hydrophobicity. Several transmembrane alpha-helices were predicted from the amino acid sequence of ComA which, in the context of an observed sequence similarity with other inner membrane proteins, suggests a location for the protein in the inner membrane. Using piliated and non-piliated comA mutants the consequences of transformation deficiency on pilin phase variation were assessed. We show that the comA defect affects some but not all types of DNA rearrangements associated with pilE variation. The results are in agreement with previous observations supporting the notion that multiple recombination pathways contribute to the variability of pilE.

L12 ANSWER 16 OF 17 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AN 1989-09959 BIOTECHDS
TI A solution to the vector homology problem;
phage T7 vector DNA probe construction for application e.g. in **Neisseria** gonorrhoeae diagnosis (conference abstract)
AU Yang H L; Donegan J J
CS Enzo-Biochem
LO Enzo Biochem, New York, NY, USA.
SO Abstr.Annu.Meet.Am.Soc.Microbiol.; (1989) 89 Meet., 110
DT Journal
LA English

AB Since most DNA probes are commonly grown in Escherichia coli, and since E. coli and plasmid DNAs are readily found in clinical samples, many false positives can arise due to the homology of vector DNA with DNA in the clinical samples. Therefore, the probe DNA has to be separated from the vector. However, even after tedious, repeated cycles of purification, the insert DNA is never completely free from vector sequences. A dot-blot experiment was performed to find a cloning vector which did not have any DNA homology with E. coli chromosomal and plasmid DNAs. 2 Commonly employed vectors, plasmid pBR322 and phage M13, as well as the lytic phage T7, were used as probes, with 10 different clinical isolates of E. coli as targets. The plasmid pBR322 and phage M13 probes showed extensive homology with the E. coli DNA, while the phage T7 probe showed no cross reaction. An insert specific to **Neisseria** gonorrhoeae was cloned in a phage T7 vector and whole **recombinant** DNA was used as a DNA probe. In a dot-blot hybridization assay, the probe retained specificity for N. gonorrhoeae while showing no homology with DNA of E. coli or any other **commensal** organisms. (0 ref)

L12 ANSWER 17 OF 17 LIFESCI COPYRIGHT 2003 CSA
AN 89:76072 LIFESCI
TI Conserved lipoproteins of pathogenic **Neisseria** species bearing the H.8 epitope: Lipid-modified azurin and H.8 outer membrane protein. CLIN. MICROBIOL. REV.
AU Cannon, J.G.; Morse, S.A. [editor]; Knapp, J.S. [editor]; Broome, C.V. [editor]; Shafer, W.M. [editor]; Cannon, J. [editor]; Sparling, P.F. [editor]; Cohen, M. [editor]; Stephens, D. [editor]
CS Dep. Microbiol. and Immunol., Univ. North Carolina Sch. Med., Chapel Hill, NC 27599, USA
SO (1989) vol. 2, no. suppl., pp. S1-S4.
Meeting Info.: 6. International Pathogenic Neisseriae Conference. Pine Mountain, GA (USA). 16-21 Oct. 1988.
DT Book
TC Conference; General Review
FS J
LA English
AB The conserved antigens that have been identified have been the subject of considerable study in an effort to determine whether they play a direct role in neisserial pathogenesis and whether they might be targets of a protective immune response. The existence of a protein epitope that is conserved among pathogenic **Neisseria** species was revealed by the binding of a monoclonal antibody (MAb) designated H.8 (8), as well as other MAbs with similar specificities. These MAbs bind to all gonococci and meningococci that have been tested and to N. lactamica and N. cinerea strains, but not to strains of other **commensal Neisseria** species. There has been much recent progress in identifying and characterizing the proteins that are recognized by H.8-specific MAbs, particularly through the use of **recombinant** deoxyribonucleic acid (DNA) approaches. The existence of multiple proteins that bind H.8-specific MAbs was revealed by screening libraries of gonococcal and meningococcal genes.

CS Department of Biology, University of Ottawa, Ontario, Canada.
SO MICROBIOLOGY, (1995 May) 141 (Pt 5) 1183-91.
Journal code: 9430468. ISSN: 1350-0872.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
OS GENBANK-U11295
EM 199507
ED Entered STN: 19950720
Last Updated on STN: 19980206
Entered Medline: 19950710
AB The carbamoyl-phosphate synthase (CPS) enzyme in prokaryotes is a heterodimer, encoded by genes commonly called carA and carB. In most prokaryotes examined, these genes are separated by up to 24 bp and are cotranscribed. In Pseudomonas aeruginosa, carA and carB are also co-transcribed, but are separated by 682 bp. We have determined the complete DNA sequence of the carA and carB genes of **Neisseria** gonorrhoeae strain CH811. carA (1125 bp) and carB (3237 bp) are similar in size and sequence to other prokaryotic CPS genes, however they are separated by an intervening sequence of 3290 bp which has no similarity to the intervening sequence between other CPS genes; furthermore, putative transcription terminators are found downstream of both carA and carB. Several neisserial repetitive sequences were identified within the 9 kb sequenced, as well as novel 120 and 150 bp repeats (designated RS6 and RS7, respectively) which were found within the intervening sequence between carA and carB. To determine whether the intervening sequence observed in N. gonorrhoeae CH811 was not unusual, the sequence between carA and carB was amplified by PCR from 30 isolates of N. gonorrhoeae. The intervening sequence was found to vary in size, from approximately 2.2 to 3.7 kb, although the carA and carB genes themselves did not vary in size in isolates with functional CPS enzyme. A similar large, variably sized intervening sequence was also found between the carA and carB genes of 12 isolates of N. meningitidis and 18 **commensal** **Neisseria** isolates comprising nine species. This unexpected organization of the CPS genes in N. gonorrhoeae is therefore widespread throughout the genus **Neisseria**.

L12 ANSWER 14 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 1995:125481 BIOSIS
DN PREV199598139781
TI Construction of **recombinant** neisserial Hsp60 proteins and mapping of antigenic domains.
AU Pannekoek, Yvonne; Dankert, Jacob; Van Putten, Jos P. M. (1)
CS (1) Max-Planck-Inst. Biol., Abt. Infektionsbiol., Spemannstrasse 34, D-72076 Tuebingen Germany
SO Molecular Microbiology, (1995) Vol. 15, No. 2, pp. 277-285.
ISSN: 0950-382X.
DT Article
LA English
AB Here we report the cloning and expression, in Escherichia coli, of PCR-amplified DNA encoding the 63-kDa stress-inducible protein of **Neisseria** gonorrhoeae strains VP1 and PID2, **Neisseria** meningitidis 2996 and the **commensal Neisseria** flavescens. DNA sequence analysis revealed in all cases one open reading frame of 541-544 amino acids corresponding to a protein of approximately 57 000 Da. The various neisserial proteins were gt 96% identical at the amino acid level and showed extensive homology with proteins belonging to the Hsp60 heat-shock-protein family. We constructed defined glutathione S-transferase fusion polypeptides of the gonococcal Hsp60 homologue to locate antigenic domains on the **recombinant** protein. Variation in the immunoreactivity of two monoclonal antibodies recognizing a

SO Molecular Cell, (April, 1999) Vol. 3, No. 4, pp. 435-445.
ISSN: 1097-2765.
DT Article
LA English
SL English
AB Expression of serogroup B meningococcal capsular polysaccharide undergoes frequent phase variation involving reversible frameshift mutations within a homopolymeric repeat in the siaD gene. A high rate of phase variation is the consequence of a biochemical defect in methyl-directed mismatch repair. The mutator phenotype is associated to the absence of DNA adenine methyltransferase (Dam) activity in all pathogenic isolates and in 50% of **commensal** strains. Analysis of the meningococcal dam gene region revealed that in all Dam- strains a gene encoding a putative restriction endonuclease (drg) that cleaves only the methylated DNA sequence 5'-GmeATC-3' replaced the dam gene. Insertional inactivation of the dam and/or drg genes indicated that high rates of phase variation and hypermutator phenotype are caused by absence of a functional dam gene.

L12 ANSWER 12 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 1997:131547 BIOSIS
DN PREV199799423360
TI Interspecies recombination, and phylogenetic distortions, within the glutamine synthetase and shikimate dehydrogenase genes of **Neisseria** meningitidis and **commensal Neisseria** species.
AU Zhou, Jiaji; Bowler, Lucas D.; Spratt, Brian G. (1)
CS (1) Sch. Biological Sci., Univ. Sussex, Falmer, Brighton BN1 9QG UK
SO Molecular Microbiology, (1997) Vol. 23, No. 4, pp. 799-812.
ISSN: 0950-382X.
DT Article
LA English
AB Visual inspection showed clear evidence of a history of intraspecies recombinational exchanges within the neighbouring meningococcal shikimate dehydrogenase (aroE) and glutamine synthetase (glnA) genes, which was supported by the non-congruence of the trees constructed from the sequences of these genes from different meningococcal strains, and by statistical tests for mosaic structure. Many examples were also found of highly localized interspecies recombinational exchanges between the meningococcal aroE and glnA genes and those of **commensal Neisseria** species. These exchanges appear to have inflated the sequence variation at these loci, and have resulted in major distortions of the phylogenetic trees constructed from the sequences of the aroE and glnA genes of human pathogenic and **commensal Neisseria** species. Statistical tests for sequence mosaicism, and for anomalies within the **Neisseria** species trees, strongly supported the view that frequent interspecies recombination has occurred within aroE and glnA. The high levels of sequence variation, and intra- and interspecies recombination, within aroE and glnA did not appear to be due to a 'hitch-hiking' effect caused by positive selection for variation at a neighbouring gene. Our results suggest that interspecies recombinational exchanges with **commensal Neisseria** occur frequently in some meningococcal 'housekeeping' genes as they can be observed readily even when there appears to be no obvious selection for the **recombinant** phenotypes.

L12 ANSWER 13 OF 17 MEDLINE
AN 95291461 MEDLINE
DN 95291461 PubMed ID: 7773412
TI Organization of carbamoyl-phosphate synthase genes in **Neisseria** gonorrhoeae includes a large, variable intergenic sequence which is also present in other **Neisseria** species.
AU Lawson F S; Billowes F M; Dillon J A

frequent modulation in the levels of antibody reactivity. A concurrent modulation was also observed in the binding of C-reactive protein, CRP, a ChoP-binding reactant that is implicated in bacterial clearance. Genetic analysis showed the presence of a gene in several Cn spp. with significant sequence identity to H. influenzae licA. This gene encodes choline kinase and is also involved in phase variation of the LPS-associated ChoP in H. influenzae. In contrast, licA-like genes were not identified in the pathogenic **Neisseria** strains tested. They are absent from N. meningitidis strain Z2491 genome database. These data suggest that the genetic basis for ChoP incorporation in Cn LPS resembles that in H. influenzae spp. and may be distinct from that generating the ChoP epitope on pili of pathogenic Neisseriae. Further, the modulation of ChoP expression on Cn LPS, and corresponding modulation of CRP binding, has the potential to confer the property of immune avoidance and thus of persistence on **mucosa**.

L7 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
AN 2001:114579 BIOSIS
DN PREV200100114579
TI Frequent interspecific genetic exchange between **commensal** neisseriae and **Neisseria** meningitidis.
AU Linz, Bodo; Schenker, Martin; Zhu, Peixuan; Achtman, Mark (1)
CS (1) Max-Planck-Institut fuer Molekulare Genetik, Ihnestrasse 73, 14195, Berlin: achtman@molgen.mpg.de Germany
SO Molecular Microbiology, (June, 2000) Vol. 36, No. 5, pp. 1049-1058. print.
ISSN: 0950-382X.
DT Article
LA English
SL English
AB Natural sequence variation was investigated among serogroup A subgroup IV-1 **Neisseria** meningitidis isolated from diseased patients and healthy carriers in The Gambia, West Africa. The frequencies of DNA import were analysed by sequencing fragments of four linked genes encoding the immunogenic outer membrane proteins TbpB (transferrin binding protein B) and OpaA (an adhesin) plus two housekeeping enzymes. Seventeen foreign tbpB alleles were independently imported into the 98 strains tested, apparently due to immune selection. The median size of the imported DNA fragments was 5 kb, resulting in the occasional concurrent import of linked housekeeping genes by hitchhiking. Sequences of tbpB from other strains of N. meningitidis as well as **commensal** **Neisseria lactamica** and **Neisseria** spp. isolated from the same geographical area revealed that these species share a common tbpB gene pool and identified several examples of interspecific genetic exchange. These observations indicate that recombination can be more frequent between related species than within a species and indicate that effective **vaccination** against serogroup B meningococcal disease may be difficult to achieve.

L7 ANSWER 12 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
AN 2000:115565 BIOSIS
DN PREV200000115565
TI Antigenic cross-reactivity between outer membrane proteins of **Neisseria** meningitidis and **commensal Neisseria** species.
AU Troncoso, G.; Sanchez, S.; Moreda, M.; Criado, M. T.; Ferreiros, C. M. (1)
CS (1) Departamento de Microbiologia y Parasitologia, Facultad de Farmacia, Universidad de Santiago de Compostela, Santiago de Compostela Spain
SO FEMS Immunology and Medical Microbiology, (Feb., 2000) Vol. 27, No. 2, pp. 103-109.
ISSN: 0928-8244.
DT Article

capsule, protein synthesis, nucleotide synthesis, cell wall metabolism, ATP synthesis, and protein folding were down-regulated in MenB. Transporters for iron, chloride and sulfate, some known virulence factors, GAPDH and the entire pathway of selenocysteine biosynthesis were upregulated. Gene expression profiling indicates that approximately 40% of the regulated genes encode putative surface-associated proteins, suggesting that upon cell contact **Neisseria** undergoes substantial surface remodeling. This was confirmed by FACS analysis of adhering bacteria using mouse sera against a subset of recombinant proteins. Finally, a few surface-located, adhesion-activated antigens were capable of inducing bactericidal antibodies, indicating that microarray technology can be exploited for the identification of new **vaccine** candidates..

L7 ANSWER 8 OF 15 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 2001:528766 BIOSIS
DN PREV200100528766
TI Acid stress upregulated outer membrane proteins in clinical isolates of **Neisseria** gonorrhoeae, but not most **commensal** **Neisseria**.
AU Pettit, R. K. (1); Whelan, T. M.; Woo, K. S.
CS (1) Department of Microbiology, Cancer Research Institute, Arizona State University, Tempe, AZ, 85287-2404: pettitr@asu.edu USA
SO Canadian Journal of Microbiology, (September, 2001) Vol. 47, No. 9, pp. 871-876. print.
ISSN: 0008-4166.
DT Article
LA English
SL English; French
AB Human immune serum recognition of outer membrane components from **commensal** and pathogenic **Neisseria** cultured under neutral and acidic conditions was investigated. Acid stress caused no detectable alterations in lipooligosaccharide migration and (or) staining, in outer membrane protein profiles, or in immune serum recognition of outer membrane components from **Neisseria mucosa** or **Neisseria sicca**. There was also no difference in the lipoologosaccharide electrophoretic pattern of acid- and neutral-grown **Neisseria lactamica**, but there were differences in outer membrane protein expression. The outer membrane protein alterations induced by acid stress in N. **lactamica** were not the same as those seen in isolates from patients with uncomplicated gonococcal infection, pelvic inflammatory disease, and disseminated gonococcal infection. Many differences were detected in the immune serum recognition of outer membrane components from acid- and neutral-cultured N. **lactamica** and from the clinical isolates of **Neisseria** gonorrhoeae, and these should be considered in **vaccine** design.

L7 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS
AN 2000:608607 CAPLUS
DN 133:213155
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew; Gorringe, Andrew Richard; Hudson, Michael John; Bracegirdle, Philippa; Kroll, John Simon; Cartwright, Keith
PA Microbiological Research Authority, UK; Imperial College School of Science, Technology and Medicine; Public Health Laboratory Service Board
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1154791 A2 20011121 EP 2000-905182 20000222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 2002537352 T2 20021105 JP 2000-600684 20000222
US 2003026809 A1 20030206 US 2001-942583 20010831
US 2003021812 A1 20030130 US 2002-185769 20020701
PRAI GB 1999-4028 A 19990222
GB 1999-22561 A 19990923
WO 2000-GB624 W 20000222
US 2001-914041 A1 20010822
AB Methods and compns. for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal **Neisseria** or an ext. of a commensal **Neisseria**. Further methods and compns. comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compns. are used in **vaccine** prepns. for the treatment of microbial infection.

=> s l2 and commensal
L4 54 L2 AND COMMENSAL

=> s l4 and recombinant
L5 3 L4 AND RECOMBINANT

=> d bib1-3
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L5 ANSWER 1 OF 3 MEDLINE
AN 2003030510 MEDLINE
DN 22425434 PubMed ID: 12538166
TI Gene expression profile in **Neisseria** meningitidis and **Neisseria lactamica** upon host-cell contact: from basic research to **vaccine** development.
AU Grifantini R; Bartolini E; Muzzi A; Draghi M; Frigimelica E; Berger J; Randazzo F; Grandi G
CS Chiron SpA, Siena, Italy.
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (2002 Dec) 975 202-16. Journal code: 7506858. ISSN: 0077-8923.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200303
ED Entered STN: 20030123
Last Updated on STN: 20030305
Entered Medline: 20030304

=> d bib ab 1-3

9/942583

```
=> s neisseria and commensal
L1          682 NEISSERIA AND COMMENSAL

=> s l1 and heterologous (5a) express?
L2           12 L1 AND HETEROLOGOUS (5A) EXPRESS?

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3           12 DUP REM L2 (0 DUPLICATES REMOVED)

=> d bib ab 1-12

L3   ANSWER 1 OF 12  USPATFULL
AN      2003:51135  USPATFULL
TI      Directed evolution of enzymes and antibodies
IN      Iverson, Brent, Austin, TX, UNITED STATES
        Georgiou, George, Austin, TX, UNITED STATES
        Chen, Gang, Austin, TX, UNITED STATES
        Olsen, Mark J., Austin, TX, UNITED STATES
        Daugherty, Patrick S., Austin, TX, UNITED STATES
PA      Board of Regents, The University of Texas System (U.S. corporation)
PI      US 2003036092      A1   20030220
AI      US 2001-782672     A1   20010212 (9)
RLI     Continuation of Ser. No. US 1997-847063, filed on 1 May 1997, ABANDONED
        Continuation-in-part of Ser. No. US 1995-447402, filed on 23 May 1995,
        GRANTED, Pat. No. US 5866344 Continuation-in-part of Ser. No. US
        1994-258543, filed on 10 Jun 1994, ABANDONED Division of Ser. No. US
        1991-794731, filed on 15 Nov 1991, GRANTED, Pat. No. US 5348867
DT      Utility
FS      APPLICATION
LREP    Steven L. Highlander, Esq., FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600
        Congress Avenue, Austin, TX, 78701
CLMN    Number of Claims: 45
ECL     Exemplary Claim: 1
DRWN    13 Drawing Page(s)
LN.CNT 3955
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      The invention relates to methods of selecting proteins, out of large
        libraries, having desirable characteristics. Exemplified are methods of
        expressing enzymes and antibodies on the surface of host cells and
        selecting for desired activities. These methods have the advantage of
        speed and ease of operation when compared with current methods. They
        also provide, without additional cloning, a source of significant
        quantities of the protein of interest.

L3   ANSWER 2 OF 12  USPATFULL
AN      2003:37165  USPATFULL
TI      Neisserial vaccine compositions and methods
IN      Robinson, Andrew, Salisbury, UNITED KINGDOM
        Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
        Hudson, Michael John, Salisbury, UNITED KINGDOM
        Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
        Kroll, John Simon, Oxford, UNITED KINGDOM
        Langford, Paul Richard, Oxford, UNITED KINGDOM
        Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
        Cartwright, Keith, Brobury, UNITED KINGDOM
        O'Dwyer, Cliona Anne, Furbo, IRELAND
        Reddin, Karen Margaret, Salisbury, UNITED KINGDOM
PI      US 2003026809      A1   20030206
AI      US 2001-942583     A1   20010831 (9)
RLI     Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000,
        UNKNOWN
PRAI    GB 1999-4028        19990222
        GB 1999-22561       19990923
```

DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an extract of a **commensal Neisseria**. Further methods and compositions comprise **commensal Neisseria** which express genes from virulent strains of **Neisseria** and/or heterologous gene products from non-neisserial sources. Such compositions are used in vaccine preparations for the treatment of microbial infection.

L3 ANSWER 3 OF 12 USPATFULL
AN 2003:29870 USPATFULL
TI Neisserial vaccine compositions and methods.
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
PA Microbiological Research Authority (non-U.S. corporation)
PI US 2003021812 A1 20030130
AI US 2002-185769 A1 20020701 (10)
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an extract of a **commensal Neisseria**. Further methods and compositions comprise **commensal Neisseria** which express genes from virulent strains of **Neisseria** and/or heterologous gene products from non-Neisserial sources. Such compositions are used in vaccine preparations for the treatment of microbial infection.

L3 ANSWER 4 OF 12 USPATFULL
AN 2002:205882 USPATFULL
TI Vaccines for broad spectrum protection against diseases caused by **neisseria** meningitidis
IN Granoff, Dan M., Berkeley, CA, UNITED STATES
Moe, Gregory R., Alameda, CA, UNITED STATES
PI US 2002110569 A1 20020815
AI US 2001-917222 A1 20010727 (9)
PRAI US 2000-221495P 20000727 (60)

DT Utility
FS APPLICATION
LREP Carol L. Francis, Bozicevic, Field and Francis LLP, Suite 200, 200 Middlefield Road, Menlo Park, CA, 94025
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 23 Drawing Page(s)
LN.CNT 2727
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention generally provides methods and vaccines for the prevention of diseases caused by **Neisseria** meningitidis bacteria, particularly serogroup B strains.

L3 ANSWER 5 OF 12 USPATFULL
AN 2002:164414 USPATFULL
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof
IN Judd, Ralph C., Florence, MT, UNITED STATES
Manning, D. Scott, Missoula, MT, UNITED STATES
PI US 2002086028 A1 20020704
AI US 2001-994192 A1 20011126 (9)
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleic acid and amino acid sequences of the Omp85 proteins of N. gonorrhoeae and N. meningitidis, and fragments thereof are useful in vaccine compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L3 ANSWER 6 OF 12 USPATFULL
AN 2002:164407 USPATFULL
TI Method for improving the half-life of soluble viral receptors on mucosal membranes
IN Lee, Peter P., Menlo Park, CA, UNITED STATES
PA OSEL, INC., Mountain View, CA, UNITED STATES (U.S. corporation)
PI US 2002086020 A1 20020704
AI US 2002-43689 A1 20020110 (10)
RLI Division of Ser. No. US 2000-549261, filed on 14 Apr 2000, PATENTED
PRAI US 1999-129722P 19990416 (60)
DT Utility
FS APPLICATION
LREP TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
CLMN Number of Claims: 41
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 1442
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to methods of increasing the half-life of a viral-specific ligand on a mucosal membrane by modifying the viral-specific ligand to bind the bacteria colonized on the mucosal membrane. The invention also provides a chimeric molecule comprising a viral-specific ligand and a bacterial-specific ligand.

L3 ANSWER 7 OF 12 USPATFULL
AN 2002:144099 USPATFULL
TI Plants and plant cells expressing histidine tagged intimin
IN Stewart, Jr., C. Neal, Greensboro, NC, United States
McKee, Marian L., Great Falls, VA, United States
O'Brien, Alison D., Bethesda, MD, United States
Wachtel, Marian R., Gaithersburg, MD, United States
PA Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6406885 B1 20020618
AI US 2000-696188 20001026 (9)
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented, Pat. No. US 6261561
PRAI US 1996-15938P 19960422 (60)
US 1996-15657P 19960419 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny Allen
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 2819
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the production of antibodies, which protect the animals/humans against EHEC colonization and infection, and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L3 ANSWER 8 OF 12 USPATFULL
AN 2002:69603 USPATFULL
TI Method for improving the half-life of soluble viral-specific ligands on mucosal membranes
IN Lee, Peter P., Palo Alto, CA, United States
PA Osel, Inc., Santa Clara, CA, United States (U.S. corporation)
PI US 6365156 B1 20020402
AI US 2000-549261 20000414 (9)
PRAI US 1999-129722P 19990416 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Housel, James; Assistant Examiner: Foley, Shanon A.
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 1368
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to methods of increasing the half-life of a viral-specific ligand on a mucosal membrane by modifying the viral-specific ligand to bind the bacteria colonized on the mucosal membrane. The invention also provides a chimeric molecule comprising a viral-specific ligand and a bacterial-specific ligand.

L3 ANSWER 9 OF 12 USPATFULL
AN 2001:59389 USPATFULL
TI NucA protein of Haemophilus influenzae
IN Jones, Kevin F., New York, NY, United States
PA American Cyanamid Company, Madison, NJ, United States (U.S. corporation)
PI US 6221365 B1 20010424
WO 9804103 19980205
AI US 1998-43711 19980320 (9)
WO 1997-US12790 19970723
19980320 PCT 371 date
19980320 PCT 102(e) date
RLI Continuation of Ser. No. US 1996-687865, filed on 26 Jul 1996, now patented, Pat. No. US 5955596
PRAI US 1996-22619P 19960726 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Graser, Jennifer
LREP Gordon, Alan M.
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 2137
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A protein from H. influenzae designated NucA is isolated and purified. The NucA protein has the amino acid sequence of amino acids 26-603 of SEQ ID NO.2 or a biologically equivalent amino acid sequence thereof. Amino acids 1-25 of SEQ ID NO.2 are the signal peptide, which is cleaved during processing of the mature protein. The NucA protein has a molecular weight of approximately 63,000 Daltons as measured on a 12% SDS-PAGE gel and possesses 5'-nucleotidase activity. The NucA protein is obtained by isolation and purification from the H. influenzae organism, by chemical synthesis or by recombinant expression by an isolated and purified nucA DNA sequence which encodes the NucA protein. Such a DNA sequence hybridizes under standard high stringency Southern hybridization conditions with a DNA sequence encoding the NucA protein of H. influenzae having the amino acid sequence of amino acids 26-603 of SEQ ID NO.2 or a biologically equivalent amino acid sequence thereof. The NucA protein is used to prepare a vaccine composition which elicits a protective immune response in a mammalian host to protect the host against disease caused by H. influenzae.

L3 ANSWER 10 OF 12 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-549378 [50] WPIDS
DNC C2000-164066
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial vaccine.
DC B04 D16
IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M
PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J; (KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R
CYC 91
PI WO 2000050074 A2 20000831 (200050)* EN 35p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000026811 A 20000914 (200063)

EP 1154791 A2 20011121 (200176) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

JP 2002537352 W 20021105 (200304) 39p

US 2003021812 A1 20030130 (200311)

US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811 20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222; JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US 2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041 20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624 20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO 200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel vaccine composition (I) comprises a **commensal Neisseria** or an immunogenic component, extract or derivative thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a composition for eliciting an immune response and suitable for use in vaccinating an individual against neisserial infection, comprising an antigenic component having the properties:

(a) molecular weight 40-90 kDa, or 70 kDa;

(b) obtainable from a **commensal Neisseria**; and

(c) antibodies against the component cross-react with N. meningitidis;

(2) a method of vaccination against microbial or neisserial infection, comprising using the compositions of the invention;

(3) a **commensal Neisseria** which expresses a gene from a pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a composition suitable for vaccinating against meningococcal disease, comprising suspending **commensal Neisseria** cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression** vector;

(b) transforming the expression vector into a **commensal Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression** vector;

(b) transforming the expression vector into a **commensal Neisseria**;

(c) obtaining an immunogenic component or extract from the **Neisseria** of (b); and

(d) combining this immunogenic component or extract with a pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a **commensal Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a

heterologous gene product and a pharmaceutically acceptable carrier.

USE - The vaccines are used to protect against microbial infection, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. The **commensal Neisseria** can be used in the manufacture of a medicament for the treatment of a neisserial infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria** meningitidis strain K454 by use of N. lactamica whole cells and outer membrane fractions.

Dwg.1/5

L3 ANSWER 11 OF 12 USPATFULL
AN 1999:113881 USPATFULL
TI NucA protein of Haemophilus influenzae and the gene encoding that protein
IN Zagursky, Robert J., Victor, NY, United States
Ooi, Peggy, Mendon, NY, United States
PA American Cyanamid Company, Madison, NJ, United States (U.S. corporation)
PI US 5955596 19990921
AI US 1996-687865 19960726 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Housel, James C.; Assistant Examiner: Shaver, Jennifer
LREP Gordon, Alan M.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 2580
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A protein from H. influenzae designated NucA is isolated and purified. The NucA protein has the amino acid sequence of amino acids 26-603 of SEQ ID NO:2 or a biologically equivalent amino acid sequence thereof. Amino acids 1-25 of SEQ ID NO:2 are the signal peptide, which is cleaved during processing of the mature protein. The NucA protein has a molecular weight of approximately 63,000 Daltons as measured on a 12% SDS-PAGE gel and possesses 5'-nucleotidase activity. The NucA protein is obtained by isolation and purification from the H. influenzae organism, by chemical synthesis or by recombinant expression by an isolated and purified nucA DNA sequence which encodes the NucA protein. Such a DNA sequence hybridizes under standard high stringency Southern hybridization conditions with a DNA sequence encoding the NucA protein of H. influenzae having the amino acid sequence of amino acids 26-603 of SEQ ID NO:2 or a biologically equivalent amino acid sequence thereof. The NucA protein is used to prepare a vaccine composition which elicits a protective immune response in a mammalian host to protect the host against disease caused by H. influenzae.

L3 ANSWER 12 OF 12 USPATFULL
AN 1998:139022 USPATFULL
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin
IN Normark, Staffan, Clayton, MO, United States
Jonsson, Ann-Beth, Umea, Sweden
PA Washington University, St. Louis, MO, United States (U.S. corporation)
PI US 5834591 19981110
AI US 1995-415788 19950403 (8)
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned
DT Utility

FS Granted
EXNAM Primary Examiner: Sidberry, Hazel F.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 3804
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of vaccines. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	42.40	42.61

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FULL ESTIMATED COST	0.30	42.91

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CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d his

     (FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

     FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,
     LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003
L1          682 S NEISSERIA AND COMMENSAL
L2           12 S L1 AND HETEROLOGOUS (5A) EXPRESS?
L3           12 DUP REM L2 (0 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

     FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,
     LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

=> s neisseria and vaccin?
L4         8698 NEISSERIA AND VACCIN?

=> s l4 and heterologous (10a) express?
   7 FILES SEARCHED...
L5          401 L4 AND HETEROLOGOUS (10A) EXPRESS?

=> s l5 and (cinerea or lactarhica or elongata or flava or flavescens or
polysaccharea or sicca or mucosa or perflava or subflava)
L6          156 L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVESCEN
                S OR POLYSACCHAREA OR SICCA OR MUCOSA OR PERFLAVA OR SUBFLAVA)

=> s l5 and lactamia
L7            0 L5 AND LACTAMIA

=> s l5 and lacatamica
L8            0 L5 AND LACATAMICA

=> s l5 and lactamica
L9           10 L5 AND LACTAMICA

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10           9 DUP REM L9 (1 DUPLICATE REMOVED)

=> d bib ab 1-9

L10  ANSWER 1 OF 9  CAPLUS  COPYRIGHT 2003 ACS
AN   2003:97443  CAPLUS
DN   138:149364
TI   Neisseria adhesins and their use in drug screening and in
     vaccines
IN   Arico, Maria; Comanducci, Maurizio
PA   Chiron S.p.A., Italy
SO   PCT Int. Appl., 79 pp.
     CODEN: PIXXD2
DT   Patent
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LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003010194	A2	20030206	WO 2002-IB3396	20020726

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI GB 2001-18401 A 20010727
GB 2001-21591 A 20010906
GB 2002-11025 A 20020514

AB NadA, App and ORF40 function as adhesins in N. meningitidis. Adhesion can be modulated by targeting these three proteins. NadA allelic variants are disclosed. Autoproteolytic cleavage of App is disclosed, as is removal of the activity by mutagenesis. App is processed and secreted into culture medium when expressed in E. coli. Mature App proteins are disclosed. Knockout mutants are disclosed. Vesicles from non-Neisserial hosts with **heterologous** adhesin **expression** are disclosed. Thus, the nadA gene was found to be overrepresented in 3 hypervirulent N. meningitidis lineages. It appeared to be a foreign gene present in this subset of hypervirulent strains. NadA was shown to be exposed as an oligomer on the bacteria surface and appears to be involved in bacterial adhesion. NadA was present in at least 50% of disease-assocd. N. meningitidis, it elicited protective and bactericidal antibodies in lab animals, and each allele induced cross-bactericidal antibodies. NadA therefore appears to be a good **vaccine** antigen.

L10 ANSWER 2 OF 9 USPATFULL
AN 2003:37165 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM
PI US 2003026809 A1 20030206
AI US 2001-942583 A1 20010831 (9)
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and

in particular meningococcal disease, comprise a commensal **Neisseria** or an extract of a commensal **Neisseria**. Further methods and compositions comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L10 ANSWER 3 OF 9 USPATFULL
AN 2003:29870 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
PA Microbiological Research Authority (non-U.S. corporation)
PI US 2003021812 A1 20030130
AI US 2002-185769 A1 20020701 (10)
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal **Neisseria** or an extract of a commensal **Neisseria**. Further methods and compositions comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-Neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L10 ANSWER 4 OF 9 USPATFULL
AN 2002:205882 USPATFULL
TI **Vaccines** for broad spectrum protection against diseases caused by **neisseria** meningitidis
IN Granoff, Dan M., Berkeley, CA, UNITED STATES
Moe, Gregory R., Alameda, CA, UNITED STATES
PI US 2002110569 A1 20020815
AI US 2001-917222 A1 20010727 (9)
PRAI US 2000-221495P 20000727 (60)
DT Utility
FS APPLICATION
LREP Carol L. Francis, Bozicevic, Field and Francis LLP, Suite 200, 200 Middlefield Road, Menlo Park, CA, 94025
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 23 Drawing Page(s)
LN.CNT 2727
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention generally provides methods and **vaccines**

for the prevention of diseases caused by **Neisseria** meningitidis bacteria, particularly serogroup B strains.

L10 ANSWER 5 OF 9 USPATFULL
AN 2002:164414 USPATFULL
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof
IN Judd, Ralph C., Florence, MT, UNITED STATES
Manning, D. Scott, Missoula, MT, UNITED STATES
PI US 2002086028 A1 20020704
AI US 2001-994192 A1 20011126 (9)
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleic acid and amino acid sequences of the Omp85 proteins of N. gonorrhoeae and N. meningitidis, and fragments thereof are useful in **vaccine** compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L10 ANSWER 6 OF 9 USPATFULL
AN 2002:95578 USPATFULL
TI Method of transferring at least two saccharide units with a polyglycosyltransferase
IN Johnson, Karl F., Willow Grove, PA, United States
Roth, Stephen, Gladwyne, PA, United States
Buczala, Stephanie L., Jenkintown, PA, United States
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)
PI US 6379933 B1 20020430
AI US 1999-338943 19990624 (9)
RLI Continuation of Ser. No. US 1995-478140, filed on 7 Jun 1995, now patented, Pat. No. US 6127153
DT Utility
FS GRANTED
EXNAM Primary Examiner: Prats, Francisco
LREP Morgan, Lewis & Bockius, LLP
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 1220
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and a gene encoding such a polyglycosyltransferase.

L10 ANSWER 7 OF 9 WPIDS (C) 2003 THOMSON DERWENT DUPLICATE 1
AN 2000-549378 [50] WPIDS
DNC C2000-164066
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial **vaccine**.
DC B04 D16
IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M

PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J; (KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)* EN 35p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000026811 A 20000914 (200063)
EP 1154791 A2 20011121 (200176) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2002537352 W 20021105 (200304) 39p
US 2003021812 A1 20030130 (200311)
US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811 20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222; JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US 2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041 20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624 20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO 200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel **vaccine** composition (I) comprises a commensal **Neisseria** or an immunogenic component, extract or derivative thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a composition for eliciting an immune response and suitable for use in **vaccinating** an individual against neisserial infection, comprising an antigenic component having the properties:

(a) molecular weight 40-90 kDa, or 70 kDa;

(b) obtainable from a commensal **Neisseria**; and

(c) antibodies against the component cross-react with N. meningitidis;

(2) a method of **vaccination** against microbial or neisserial infection, comprising using the compositions of the invention;

(3) a commensal **Neisseria** which expresses a gene from a pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a composition suitable for **vaccinating** against meningococcal disease, comprising suspending commensal **Neisseria** cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression** vector;

(b) transforming the expression vector into a commensal **Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression** vector;

(b) transforming the expression vector into a commensal **Neisseria**;

(c) obtaining an immunogenic component or extract from the

Neisseria of (b); and

(d) combining this immunogenic component or extract with a pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a commensal **Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a heterologous gene product and a pharmaceutically acceptable carrier.

USE - The **vaccines** are used to protect against microbial infection, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. The commensal **Neisseria** can be used in the manufacture of a medicament for the treatment of a neisserial infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria** meningitidis strain K454 by use of N. **lactamica** whole cells and outer membrane fractions.

Dwg.1/5

L10 ANSWER 8 OF 9 USPATFULL
AN 2000:131625 USPATFULL
TI Method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and gene encoding a polyglycosyltransferase
IN Johnson, Karl F., Willow Grove, PA, United States
Roth, Stephen, Gladwyne, PA, United States
Buczala, Stephanie L., Jenkintown, PA, United States
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)
PI US 6127153 20001003
AI US 1995-478140 19950607 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Prats, Francisco
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 1270
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and a gene encoding such a polyglycosyltransferase.

L10 ANSWER 9 OF 9 USPATFULL
AN 1998:139022 USPATFULL
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin
IN Normark, Staffan, Clayton, MO, United States
Jonsson, Ann-Beth, Umea, Sweden
PA Washington University, St. Louis, MO, United States (U.S. corporation)
PI US 5834591 19981110
AI US 1995-415788 19950403 (8)
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sidberry, Hazel F.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1

DRWN 18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 3804
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of **vaccines**. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003
L1 682 S NEISSERIA AND COMMENSAL
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003
L4 8698 S NEISSERIA AND VACCIN?
L5 401 S L4 AND HETEROLOGOUS (10A) EXPRESS?
L6 156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES
L7 0 S L5 AND LACTAMIA
L8 0 S L5 AND LACATAMICA
L9 10 S L5 AND LACTAMICA
L10 9 DUP REM L9 (1 DUPLICATE REMOVED)

=> dup rem l6
PROCESSING COMPLETED FOR L6
L11 150 DUP REM L6 (6 DUPLICATES REMOVED)

=> s l11 and expression vector
11 FILES SEARCHED...
L12 136 L11 AND EXPRESSION VECTOR

=> s l12 and commensal
L13 6 L12 AND COMMENSAL

=> d bib ab 1-6

L13 ANSWER 1 OF 6 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-549378 [50] WPIDS
DNC C2000-164066
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial **vaccine**.
DC B04 D16
IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M
PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J; (KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R
CYC 91
PI WO 2000050074 A2 20000831 (200050)* EN 35p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL

OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000026811 A 20000914 (200063)

EP 1154791 A2 20011121 (200176) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 2002537352 W 20021105 (200304) 39p

US 2003021812 A1 20030130 (200311)

US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811 20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222; JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US 2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041 20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624 20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO 200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

AB WO 200050074 A UPAB: 20001010

NOVELTY - A novel **vaccine** composition (I) comprises a **commensal Neisseria** or an immunogenic component, extract or derivative thereof.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a composition for eliciting an immune response and suitable for use in **vaccinating** an individual against neisserial infection, comprising an antigenic component having the properties:

(a) molecular weight 40-90 kDa, or 70 kDa;

(b) obtainable from a **commensal Neisseria**; and

(c) antibodies against the component cross-react with N. meningitidis;

(2) a method of **vaccination** against microbial or neisserial infection, comprising using the compositions of the invention;

(3) a **commensal Neisseria** which expresses a gene from a pathogenic **Neisseria**;

(4) a method of extracting a protein for incorporation in a composition suitable for **vaccinating** against meningococcal disease, comprising suspending **commensal Neisseria** cells in the presence of detergent; and incubating the suspension so as to extract a protein fraction from the cells;

(5) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression vector**;

(b) transforming the **expression vector** into a **commensal Neisseria**; and

(c) combining the **Neisseria** of (b) with a pharmaceutically acceptable carrier;

(6) a method of preparing a composition, comprising:

(a) inserting a gene coding for a **heterologous** gene product into an **expression vector**;

(b) transforming the **expression vector** into a **commensal Neisseria**;

(c) obtaining an immunogenic component or extract from the **Neisseria** of (b); and

(d) combining this immunogenic component or extract with a pharmaceutically acceptable carrier; and

(7) a method of preparing a composition, comprising:

(a) obtaining an immunogenic component or extract from a **commensal Neisseria**; and

(b) combining the immunogenic component or extract of (a) with a heterologous gene product and a pharmaceutically acceptable carrier.

USE - The **vaccines** are used to protect against microbial infection, particularly meningococcal disease. Neisserial infections which may be protected against also include gonorrheal infection. The **commensal Neisseria** can be used in the manufacture of a medicament for the treatment of a neisserial infection or for immunostimulation in an animal.

ADVANTAGE - The organisms used in the invention cannot revert to virulent types, and avoids the risks associated with attenuated viruses.

DESCRIPTION OF DRAWING(S) - The figure shows protection of mice against intraperitoneal (IP) infection with **Neisseria** meningitidis strain K454 by use of N. lactamica whole cells and outer membrane fractions.

Dwg.1/5

L13 ANSWER 2 OF 6 USPATFULL
AN 2003:37165 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM
PI US 2003026809 A1 20030206
AI US 2001-942583 A1 20010831 (9)
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an extract of a **commensal Neisseria**. Further methods and compositions comprise **commensal Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L13 ANSWER 3 OF 6 USPATFULL
AN 2003:29870 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
PA Microbiological Research Authority (non-U.S. corporation)

PI US 2003021812 A1 20030130
AI US 2002-185769 A1 20020701 (10)
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a **commensal Neisseria** or an extract of a **commensal Neisseria**. Further methods and compositions comprise **commensal Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-Neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L13 ANSWER 4 OF 6 USPATFULL
AN 2002:164414 USPATFULL
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof
IN Judd, Ralph C., Florence, MT, UNITED STATES
Manning, D. Scott, Missoula, MT, UNITED STATES
PI US 2002086028 A1 20020704
AI US 2001-994192 A1 20011126 (9)
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleic acid and amino acid sequences of the Omp85 proteins of N. gonorrhoeae and N. meningitidis, and fragments thereof are useful in **vaccine** compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L13 ANSWER 5 OF 6 USPATFULL
AN 2002:144099 USPATFULL
TI Plants and plant cells expressing histidine tagged intimin
IN Stewart, Jr., C. Neal, Greensboro, NC, United States
McKee, Marian L., Great Falls, VA, United States
O'Brien, Alison D., Bethesda, MD, United States
Wachtel, Marian R., Gaithersburg, MD, United States
PA Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6406885 B1 20020618
AI US 2000-696188 20001026 (9)
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented, Pat. No. US 6261561

PRAI US 1996-15938P 19960422 (60)
US 1996-15657P 19960419 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny Allen
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 2819
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the production of antibodies, which protect the animals/humans against EHEC colonization and infection, and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L13 ANSWER 6 OF 6 USPATFULL
AN 1998:139022 USPATFULL
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin
IN Normark, Staffan, Clayton, MO, United States
Jonsson, Ann-Beth, Umea, Sweden
PA Washington University, St. Louis, MO, United States (U.S. corporation)
PI US 5834591 19981110
AI US 1995-415788 19950403 (8)
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sidberry, Hazel F.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 3804
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides a novel protein of pathogenic forms of **Neisseria**, as well as genes which encode PilC, i.e., the pilC loci. DNA sequences of pilC genes are useful as probes to diagnose the presence of microorganisms containing type 4 pilin as well as permitting production of polypeptides which are in turn useful in diagnostic tests and/or as components of **vaccines**. The invention also provides antibodies directed against pilC epitopes. These antibodies are useful for diagnostic tests as well as therapy.

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     (FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

     FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,
     LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003
L1          682 S NEISSERIA AND COMMENSAL
L2           12 S L1 AND HETEROLOGOUS (5A) EXPRESS?
L3           12 DUP REM L2 (0 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

     FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS,
     LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003
L4         8698 S NEISSERIA AND VACCIN?
L5          401 S L4 AND HETEROLOGOUS (10A) EXPRESS?
L6          156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES
L7            0 S L5 AND LACTAMIA
L8            0 S L5 AND LACATAMICA
L9           10 S L5 AND LACTAMICA
L10           9 DUP REM L9 (1 DUPLICATE REMOVED)
L11         150 DUP REM L6 (6 DUPLICATES REMOVED)
L12         136 S L11 AND EXPRESSION VECTOR
L13           6 S L12 AND COMMENSAL

=> s l11 and vaccine vector
L14           6 L11 AND VACCINE VECTOR

=> d bib ab 1-6

L14  ANSWER 1 OF 6  USPATFULL
AN     2003:65375  USPATFULL
TI     Dendritic cells transduced with a wild-type self gene elicit potent
       antitumor immune responses
IN     Gabrilovich, Dmitry, Aurora, IL, UNITED STATES
       Carbone, David, Franklin, TN, UNITED STATES
       Chada, Sunil, Missouri City, TX, UNITED STATES
       Mhashilkar, Abner, Houston, TX, UNITED STATES
PA     Vanderbilt University and Introgen Therapeutics, Inc. (U.S. corporation)
PI     US 2003045499      A1   20030306
AI     US 2002-216346     A1   20020809 (10)
RLI    Division of Ser. No. US 2000-526320, filed on 15 Mar 2000, PENDING
PRAI   US 1999-124482P     19990315 (60)
       US 1999-124388P     19990315 (60)
DT     Utility
FS     APPLICATION
LREP   Robert E. Hanson, FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600 Congress
       Avenue, Austin, TX, 78701
CLMN   Number of Claims: 60
ECL    Exemplary Claim: 1
DRWN   5 Drawing Page(s)
LN.CNT 3256
AB     The present invention relates to immunotherapy methods for treating
       hyperproliferative disease or pathogen-induced diseases in humans. More
       specifically, the invention is directed, in one embodiment, to methods
       for treating a subject with a hyperproliferative disease in which the
       expression of a self gene is upregulated in hyperproliferative cells. In
       another embodiment, an adenoviral expression construct comprising a self
       gene under the control of a promoter operable in eukaryotic cells is
       intradermally administered to said hyperproliferative cells. In another
       embodiment of the present invention, a pathogen-induced disease in which
       the pathogen gene expression is increased or altered, is treated by
       intradermally administered a pathogen gene under the control of a
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promoter operable in eukaryotic cells. The present invention thus provides immunotherapies for treating hyperproliferative and pathogen diseases by attenuating the natural immune systems CTL response against hyperproliferative cells or overexpressing mutant p53 antigens.

L14 ANSWER 2 OF 6 USPATFULL
AN 2002:344432 USPATFULL
TI ANTIGEN LIBRARY IMMUNIZATION
IN PUNNONEN, JUHA, PALO ALTO, CA, UNITED STATES
BASS, STEVEN H., HILLSBOROUGH, CA, UNITED STATES
WHALEN, ROBERT GERALD, PARIS, FRANCE
HOWARD, RUSSELL, LOS ALTOS HILLS, CA, UNITED STATES
STEMMER, WILLEM P. C., LOS GATOS, CA, UNITED STATES
PI US 2002198162 A1 20021226
US 6541011 B2 20030401
AI US 1999-247890 A1 19990210 (9)
PRAI US 1998-74294P 19980211 (60)
US 1998-105509P 19981023 (60)
DT Utility
FS APPLICATION
LREP MAXYGEN, INC., 515 GALVESTON DRIVE, RED WOOD CITY, CA, 94063
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 21 Drawing Page(s)
LN.CNT 5366
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention is directed to antigen library immunization, which provides methods for obtaining antigens having improved properties for therapeutic and other uses. The methods are useful for obtaining improved antigens that can induce an immune response against pathogens, cancer, and other conditions, as well as antigens that are effective in modulating allergy, inflammatory and autoimmune diseases.

L14 ANSWER 3 OF 6 USPATFULL
AN 2002:288320 USPATFULL
TI Helicobacter pylori live **vaccine**
IN Meyer, Thomas F., Berlin, GERMANY, FEDERAL REPUBLIC OF
Haas, Rainer, Munchen, GERMANY, FEDERAL REPUBLIC OF
Zhengxin, Yan, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Gomez-Duarte, Oscar, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Lucas, Bernadette, Berlin, GERMANY, FEDERAL REPUBLIC OF
Maurer, Jochen, Stadtbergen, GERMANY, FEDERAL REPUBLIC OF
Gibbs, Carol Patrice, Augsburg, GERMANY, FEDERAL REPUBLIC OF
Lattemann, Claus Tobias, Neusaess, GERMANY, FEDERAL REPUBLIC OF
PI US 2002161192 A1 20021031
AI US 2001-976297 A1 20011015 (9)
RLI Continuation-in-part of Ser. No. US 1999-284233, filed on 28 Jul 1999, PENDING A 371 of International Ser. No. WO 1997-EP4744, filed on 1 Sep 1997, UNKNOWN
PRAI EP 1996-116337 19961011
DT Utility
FS APPLICATION
LREP ARENT FOX KINTNER PLOTKIN & KAHN, 1050 CONNECTICUT AVENUE, N.W., SUITE 400, WASHINGTON, DC, 20036
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1920
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel recombinant live **vaccines**, which provide protective immunity against an infection by Helicobacter pylori and a method of screening H. pylori antigens for optimized **vaccines**.

L14 ANSWER 4 OF 6 USPATFULL
AN 2002:243122 USPATFULL
TI Novel constructs and their use in metabolic pathway engineering
IN Liu, Lu, Redwood City, CA, UNITED STATES
Zhu, Genhai, San Jose, CA, UNITED STATES
PA MPEP @ Page 300-M (U.S. corporation)
PI US 2002132308 A1 20020919
AI US 2001-932254 A1 20010816 (9)
PRAI US 2000-227719P 20000824 (60)
DT Utility
FS APPLICATION
LREP QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C., P O BOX 458, ALAMEDA, CA, 94501
CLMN Number of Claims: 104
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2894
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates generally to methods and techniques for the expression of metabolic pathways, novel gene fusion constructs encoding multi-functional enzymatic domains, and related hybrid proteins.

L14 ANSWER 5 OF 6 USPATFULL
AN 2002:144099 USPATFULL
TI Plants and plant cells expressing histidine tagged intimin
IN Stewart, Jr., C. Neal, Greensboro, NC, United States
McKee, Marian L., Great Falls, VA, United States
O'Brien, Alison D., Bethesda, MD, United States
Wachtel, Marian R., Gaithersburg, MD, United States
PA Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6406885 B1 20020618
AI US 2000-696188 20001026 (9)
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented, Pat. No. US 6261561
PRAI US 1996-15938P 19960422 (60)
US 1996-15657P 19960419 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny Allen
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 2819
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the

production of antibodies, which protect the animals/humans against EHEC colonization and infection, and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L14 ANSWER 6 OF 6 USPATFULL
AN 2002:9854 USPATFULL
TI Vectors and methods for immunization or therapeutic protocols
IN Krieg, Arthur M., Iowa City, IA, United States
Davis, Heather L., Ottawa, CANADA
Wu, Tong, Hull, CANADA
Schorr, Joachim, Hilden, GERMANY, FEDERAL REPUBLIC OF
PA University of Iowa Research Foundation, Iowa City, IA, United States (U.S. corporation)
Loeb Health Research Institute at the Ottawa Hospital, Ottawa, CANADA (non-U.S. corporation)
Coley Pharmaceutical GmbH, Langenfeld, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)
PI US 6339068 B1 20020115
AI US 1998-82649 19980520 (9)
PRAI US 1997-47209P 19970520 (60)
US 1997-47233P 19970520 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Nguyen, Dave T.
LREP Wolf, Greenfield & Sacks, P. C.
CLMN Number of Claims: 109
ECL Exemplary Claim: 1
DRWN 15 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 4069
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention shows that DNA **vaccine** vectors can be improved by removal of CpG-N motifs and optional addition of CpG-S motifs. In addition, for high and long-lasting levels of expression, the optimized vector should include a promoter/enhancer that is not down-regulated by the cytokines induced by the immunostimulatory CpG motifs. Vectors and methods of use for immunostimulation are provided herein. The invention also provides improved gene therapy vectors by determining the CpG-N and CpG-S motifs present in the construct, removing stimulatory CpG (CpG-S) motifs and/or inserting neutralizing CpG (CpG-N) motifs, thereby producing a nucleic acid construct providing enhanced expression of the therapeutic polypeptide. Methods of use for such vectors are also included herein.

=> s l11 and recombinant
L15 149 L11 AND RECOMBINANT

=> s l15 and heterologous (5a) expression
L16 132 L15 AND HETEROLOGOUS (5A) EXPRESSION

=> s l16 and (transferrin binding protein or NspA or porin or outer membrane protein)
10 FILES SEARCHED...
L17 20 L16 AND (TRANSFERRIN BINDING PROTEIN OR NSPA OR PORIN OR OUTER MEMBRANE PROTEIN)

=> d bib ab 1-20

L17 ANSWER 1 OF 20 USPATFULL
AN 2003:78501 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES

Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2003054421 A1 20030320
AI US 2002-102806 A1 20020322 (10)
RLI Continuation of Ser. No. US 2001-925298, filed on 10 Aug 2001, PENDING
Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20141
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel ovarian cancer and/or breast cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian and/or breast antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian and/or breast polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian and/or breast nucleic acid molecules are provided encoding novel ovarian and/or breast polypeptides. Novel ovarian and/or breast polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human ovarian and/or breast polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 2 OF 20 USPATFULL
AN 2003:60089 USPATFULL
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)
PI US 6528289 B1 20030304
AI US 2000-643990 20000823 (9)
RLI Continuation of Ser. No. US 1995-487429, filed on 7 Jun 1995
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Martinell, James
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 23
ECL Exemplary Claim: 1

DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4428
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides the sequencing of the entire genome of Haemophilus influenzae Rd, SEQ ID NO:1. The present invention further provides the sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use. In addition to the entire genomic sequence, the present invention identifies over 1700 protein encoding fragments of the genome and identifies, by position relative to a unique Not I restriction endonuclease site, any regulatory elements which modulate the expression of the protein encoding fragments of the Haemophilus genome.

L17 ANSWER 3 OF 20 USPATFULL
AN 2003:37165 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM
PI US 2003026809 A1 20030206
AI US 2001-942583 A1 20010831 (9)
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal **Neisseria** or an extract of a commensal **Neisseria**. Further methods and compositions comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L17 ANSWER 4 OF 20 USPATFULL
AN 2003:29870 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
PA Microbiological Research Authority (non-U.S. corporation)
PI US 2003021812 A1 20030130

AI US 2002-185769 A1 20020701 (10)
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and compositions for the treatment of microbial infection, and in particular meningococcal disease, comprise a commensal **Neisseria** or an extract of a commensal **Neisseria**. Further methods and compositions comprise commensal **Neisseria** which **express** genes from virulent strains of **Neisseria** and/or **heterologous** gene products from non-Neisserial sources. Such compositions are used in **vaccine** preparations for the treatment of microbial infection.

L17 ANSWER 5 OF 20 USPATFULL
AN 2003:13200 USPATFULL
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Science, Inc., Rockville, MD, United States (U.S. corporation)
Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)
PI US 6506581 B1 20030114
AI US 2000-557884 20000425 (9)
RLI Continuation of Ser. No. US 1995-476102, filed on 7 Jun 1995
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Brusca, John S.
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 51
ECL Exemplary Claim: 1
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4510
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides the sequencing of the entire genome of Haemophilus influenzae Rd, SEQ ID NO:1. The present invention further provides the sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use. In addition to the entire genomic sequence, the present invention identifies over 1700 protein encoding fragments of the genome and identifies, by position relative to a unique Not I restriction endonuclease site, any regulatory elements which modulate the expression of the protein encoding fragments of the Haemophilus genome.

L17 ANSWER 6 OF 20 USPATFULL
AN 2002:294649 USPATFULL
TI Immune system-related polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES

Hilbert, David, Bethesda, MD, UNITED STATES
Kenny, Joseph J., Damascus, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Choi, Gil H., Rockville, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Gruber, Joachim R., Dallas, TX, UNITED STATES
Endress, Gregory A., Florence, MA, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES

PI US 2002164692 A1 20021107
AI US 2001-949842 A1 20010912 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US7260, filed on 7 Mar 2001, UNKNOWN
PRAI US 2000-187873P 20000308 (60)
US 2000-224367P 20000811 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13952
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel human immune system-related polypeptides and isolated nucleic acids containing the coding regions of the genes encoding such polypeptides. Also provided are vectors, host cells, antibodies, and **recombinant** methods for producing human immune system-related polypeptides. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human immune system-related polypeptides.

L17 ANSWER 7 OF 20 USPATFULL
AN 2002:283365 USPATFULL
TI Invasion associated genes from **Neisseria** meningitidis serogroup B
IN Ribot, Efrain M., Atlanta, GA, United States
Stephens, David S., Stone Mountain, GA, United States
Raymond, Nigel, Wellington, NEW ZEALAND
Quinn, Frederick D., Avondale Estates, GA, United States
PA Centers for Disease Control and Prevention, as represented by the Secretary, Department of Health and Human Services, Atlanta, GA, United States (U.S. government)
PI US 6472518 B1 20021029
WO 9817805 19980430
AI US 1999-284926 19990817 (9)
WO 1997-US19424 19971024
19990817 PCT 371 date
PRAI US 1996-30432P 19961024 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Graser, Jennifer E.
LREP Needle & Roseberg, P.C.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 27 Drawing Figure(s); 27 Drawing Page(s)
LN.CNT 3137
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Genes isolated from **Neisseria** memingitidis, as well as isolated nucleic acids, probes, expression cassettes, polypeptides, antibodies, immunogenic compositions, antisense nucleic acids, amplification mixtures, and new invasion deficient swains of **Neisseria** meningitidis are provided Methods of detecting **Neisseria** meningitidis and **Neisseria** meningitidis

nucleic acids, and methods of inhibiting the invasion of mammalian cells by **Neisseria** meningitidis are also provided.

L17 ANSWER 8 OF 20 USPATFULL
AN 2002:164714 USPATFULL
TI Method of reducing bacterial proliferation
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M., Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES
PI US 2002086332 A1 20020704
AI US 2001-928227 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018
CLMN Number of Claims: 46
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3811
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Bacteria and in particular pathogenic bacteria are treated in a manner which alters the bacteria's native level or activity of DNA methyltransferase (Dam). The alteration results in a change in the bacteria's native level of methylation of adenine in a GATC tetranucleotide which inhibits virulence of the bacteria. Thus, compounds which inhibit proliferation of bacteria are useful in treating bacterial infections.

L17 ANSWER 9 OF 20 USPATFULL
AN 2002:164418 USPATFULL
TI Producing antibodies with attenuated bacteria with altered DNA adenine methylase activity
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M., Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES
PI US 2002086032 A1 20020704
AI US 2001-927896 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018
CLMN Number of Claims: 42
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3833
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed towards methods of producing antibodies using an attenuated strain of pathogenic bacteria (e.g. Haemophilus, E. coli, and/or Salmonella) having non-reverting genetic mutations relative to the wild-type organism which alter activity of DNA adenine methylase (Dam). The invention further includes compositions comprised of the attenuated bacteria and methods using these

compositions to elicit an immune response and immunize a subject with highly specific antibodies. The invention also provides methods producing antibodies to heterologous antigens which the attenuated bacteria are engineered to produce.

L17 ANSWER 10 OF 20 USPATFULL
AN 2002:164414 USPATFULL
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof
IN Judd, Ralph C., Florence, MT, UNITED STATES
Manning, D. Scott, Missoula, MT, UNITED STATES
PI US 2002086028 A1 20020704
AI US 2001-994192 A1 20011126 (9)
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleic acid and amino acid sequences of the Omp85 proteins of N. gonorrhoeae and N. meningitidis, and fragments thereof are useful in **vaccine** compositions, therapeutic compositions and diagnostic compositions for use in the prevention, treatment and diagnosis of non-symptomatic gonococcal infection or symptomatic disease and non-symptomatic meningococcal infection and symptomatic disease. Antibodies are developed to these proteins and also useful in the compositions and methods described herein.

L17 ANSWER 11 OF 20 USPATFULL
AN 2002:156721 USPATFULL
TI Bacteria with altered DNA adenine methylase (DAM) activity and heterologous epitope
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M., Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES
PI US 2002081317 A1 20020627
AI US 2001-927788 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3781
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Immunogenic compositions are disclosed which are comprised of bacteria which are pathogenic in their native state but which are rendered non-pathogenic in a manner which alters the native level or activity of DNA adenine methylase. The genome is also artificially engineered to **express** a **heterologous** antigen such as an immunogenic antigen of a virus, protozoa, parasite or fungi.

L17 ANSWER 12 OF 20 USPATFULL

AN 2002:149116 USPATFULL
TI Reducing bacterial virulence
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M., Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbra, CA, UNITED STATES
PI US 2002077272 A1 20020620
AI US 2001-927885 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3809
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The virulence of bacterial strains and in particular pathogenic bacteria which infect human is reduced by an agent which alters the bacteria's native level or activity of DNA methyltransferase (Dam). The agent causes an alteration in the bacteria's native level of methylation of adenine in a GATC tetranucleotide which inhibits virulence of the bacteria. Thus, compounds and formulations thereof which reduce bacterial virulence inhibit proliferation of bacteria and are useful in treating bacterial infections, particularly in humans.

L17 ANSWER 13 OF 20 USPATFULL
AN 2002:148280 USPATFULL
TI Attenuated bacteria with altered DNA adenine methylase activity
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M., Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES
PI US 2002076417 A1 20020620
AI US 2001-927767 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA, 94304-1018
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed towards an attenuated strain of pathogenic bacteria (e.g. Haemophilus, E. Coli, and/or Salmonella) having non-reverting genetic mutations relative to the wild-type organism which alter activity of DNA adenine methylase (Dam). The invention further includes compositions comprised of the attenuated bacteria and methods using these compositions to elicit an immune response to produce highly specific antibodies. The invention also provides methods for preparing **vaccines** as well as screening methods to identify agents which may have anti-bacterial activity.

L17 ANSWER 14 OF 20 USPATFULL
AN 2002:144099 USPATFULL
TI Plants and plant cells expressing histidine tagged intimin
IN Stewart, Jr., C. Neal, Greensboro, NC, United States
McKee, Marian L., Great Falls, VA, United States
O'Brien, Alison D., Bethesda, MD, United States
Wachtel, Marian R., Gaithersburg, MD, United States
PA Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6406885 B1 20020618
AI US 2000-696188 20001026 (9)
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented, Pat. No. US 6261561
PRAI US 1996-15938P 19960422 (60)
US 1996-15657P 19960419 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny Allen
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 2819
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention satisfies needs in the art by providing intimin, the Enterohemorrhagic Escherichia coli (EHEC) adherence protein, alone or as a fusion protein with one or more other antigens, expressed by transgenic plants and the use of those plants as vehicles for stimulating a protective immune response against EHEC and the one or more other antigens. Various plant species are transformed to protect various animal species and also humans against EHEC, against pathogens expressing intimin-like proteins, and against pathogens expressing any of the one or more other antigens to which intimin may be fused.

The eae gene encoding intimin, a functional portion thereof, or a recombination that encodes a fusion protein is put under the control of a constitutive plant promoter in a plasmid and the plasmid is introduced into plants by the type of transformation appropriate for the particular plant species. The engineered plants expressing intimin or the intimin fusion protein are then fed to animals and/or humans to elicit the production of antibodies, which protect the animals/humans against EHEC colonization and infection, and against pathogens expressing the one or more other antigens and any cross-reactive antigens. The invention may also be practiced by expressing the intimin or intimin fusion protein in other host organisms such as bacteria, yeast, and fungi.

L17 ANSWER 15 OF 20 USPATFULL
AN 2002:133219 USPATFULL
TI Method of creating antibodies and compositions used for same
IN Mahan, Michael J., Santa Barbara, CA, UNITED STATES
Heithoff, Douglas M.; Goleta, CA, UNITED STATES
Low, David A., Goleta, CA, UNITED STATES
Sinsheimer, Robert L., Santa Barbara, CA, UNITED STATES
PI US 2002068068 A1 20020606
AI US 2001-927765 A1 20010809 (9)
RLI Continuation-in-part of Ser. No. US 2000-612116, filed on 7 Jul 2000, PENDING Continuation-in-part of Ser. No. US 2000-495614, filed on 1 Feb 2000, PENDING
PRAI US 1999-183043P 19990202 (60)
US 1999-198250P 19990505 (60)
DT Utility
FS APPLICATION
LREP Catherine M. Polizzi, Morrison & Foerster LLP, 755 Page Mill Road, Palo

Alto, CA, 94304-1018
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3795
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed towards compositions containing pathogenic bacteria (e.g. Haemophilus, E. Coli, and/or Salmonella) having non-reverting genetic mutations which alter activity of DNA adenine methylase (Dam) and methods using these compositions to elicit an immune response to produce highly specific antibodies. The invention also provides methods for preparing **vaccines** as well as screening methods to identify agents which may have anti-bacterial activity.

L17 ANSWER 16 OF 20 USPATFULL
AN 2002:106416 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002055627 A1 20020509
US 2003040617 A9 20030227
AI US 2001-925299 A1 20010810 (9)
RLI Continuation of Ser. No. WO 2000-US5883, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20658
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel colorectal cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "colorectal cancer antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such colorectal cancer polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the colon and/or rectum, including, but not limited to, the presence of colorectal cancer and colorectal cancer metastases. More specifically, isolated colorectal cancer nucleic acid molecules are provided encoding novel colorectal cancer polypeptides. Novel colorectal cancer polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human colorectal cancer polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the colon and/or rectum, including colorectal cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 17 OF 20 USPATFULL
AN 2002:72627 USPATFULL
TI Nucleic, acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002039764 A1 20020404
AI US 2001-925298 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000,

UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2087
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel ovarian cancer and/or breast cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "ovarian and/or breast antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such ovarian and/or breast polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the reproductive system, particularly disorders of the ovaries and/or breast, including, but not limited to, the presence of ovarian and/or breast cancer and ovarian and/or breast cancer metastases. More specifically, isolated ovarian and/or breast nucleic acid molecules are provided encoding novel ovarian and/or breast polypeptides. Novel ovarian and/or breast polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and **recombinant** and synthetic methods for producing human ovarian and/or breast polynucleotides, polypeptides, and/or antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the ovaries and/or breast, including ovarian and/or breast cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

L17 ANSWER 18 OF 20 USPATFULL
AN 2002:50802 USPATFULL
TI Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
PI US 6355450 B1 20020312
AI US 1995-476102 19950607 (8)
RLI Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Campell, Bruce R.
CLMN Number of Claims: 88
ECL Exemplary Claim: 1
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides the sequencing of the entire genome of Haemophilus influenzae Rd, SEQ ID NO: 1. The present invention further provides the sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use. In addition to the entire genomic sequence, the present invention identifies over 1700 protein encoding fragments of the genome and identifies, by

position relative to a unique Not I restriction endonuclease site, any regulatory elements which modulate the expression of the protein encoding fragments of the Haemophilus genome.

L17 ANSWER 19 OF 20 USPATFULL
AN 2002:19176 USPATFULL
TI Method of detecting shigella and shigella mxiM DNA
IN Schuch, Raymond, Washington, DC, United States
Sandlin, Robin C., Columbia, MD, United States
Maurelli, Anthony T., Silver Spring, MD, United States
PA The Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6342352 B1 20020129
AI US 1999-296670 19990422 (9)
PRAI US 1998-82944P 19980424 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Devi, S.
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)
LN.CNT 2019
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to our discovery that the mxiM protein of Shigella flexneri is indispensable for the spread of Shigella from cell to cell. Thus, the invention provides the mxiM protein or peptides or portions thereof as antigens in **vaccines** to prevent Shigella infections and treat hosts infected with Shigella by inhibiting intercellular spread. In another aspect, the invention relates to antibodies generated against the mxiM proteins, peptides, or portions thereof to detect Shigella in contaminated food and water supplies as well as in infected hosts. The present invention also describes a method called the TIER (test of intracellular expression requirements) for determining the intracellular expression requirements of genes and therefore, permitting one to establish the role of genes in the pathogenesis of organisms. A method of detecting Shigella or Shigella mxiM DNA in a sample using a mxiM DNA probe is also described.

L17 ANSWER 20 OF 20 USPATFULL
AN 2002:12031 USPATFULL
TI HISTIDINE-TAGGED INTIMIN AND METHODS OF USING INTIMIN TO STIMULATE AN IMMUNE RESPONSE AND AS AN ANTIGEN CARRIER WITH TARGETING CAPABILITY
IN MCKEE, MARIAN L., GREAT FALLS, VA, UNITED STATES
O'BRIEN, ALISON D., BETHESDA, MD, UNITED STATES
WACHTEL, MARIAN R., GAITHERSBURG, MD, UNITED STATES
PA Henry M. Jackson Foundation for the Advancement of Military Medicine (U.S. corporation)
PI US 2002006407 A1 20020117
AI US 1997-837459 A1 19970418 (8)
PRAI US 1996-15657P 19960419 (60)
US 1996-15936P 19960422 (60)
DT Utility
FS APPLICATION
LREP FINNEGAN HENDERSON FARABOW GARRETT &, DUNNER, 1300 I STREET NW, WASHINGTON, DC, 200053315
CLMN Number of Claims: 50
ECL Exemplary Claim: 1
DRWN 18 Drawing Page(s)
LN.CNT 2287
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes the isolation and purification of histidine-tagged functional portions of intimin (his-tagged intimin or his-intimin), a protein associated with the ability of certain strains

of pathogenic bacteria to adhere to epithelial cells. The invention further describes the use of intimin as an antigen to promote a protective immune response. In addition, the invention describes the combination of intimin with one or more other antigens and administration of the combination to promote a protective immune response against intimin and the one or more antigens.

One aspect of the invention is the administration of intimin to target specific epithelial cells to promote a protective immune response to intimin proteins. Additional aspects of the invention include the use of intimin or intimin combined with one or more antigens and administration of the combination to target gastrointestinal **mucosa** and stimulate an immune response. Additionally, the invention describes administration of the combination of intimin combined with drugs, to provide a means for targeted delivery of drugs to specific epithelial cells. Other aspects of the invention include the production of antibodies directed against his-intimin and methods of using such antibodies to provide passive immune protection, and in an assay system.

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=> d his

(FILE 'HOME' ENTERED AT 13:35:33 ON 28 APR 2003)

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:35:48 ON 28 APR 2003

L1 682 S NEISSERIA AND COMMENSAL
L2 12 S L1 AND HETEROLOGOUS (5A) EXPRESS?
L3 12 DUP REM L2 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 13:39:39 ON 28 APR 2003

FILE 'BIOSIS, MEDLINE, AGRICOLA, EMBASE, CABA, WPIDS, JAPIO, BIOTECHDS, LIFESCI, CAPLUS, USPATFULL, USPAT2' ENTERED AT 13:42:46 ON 28 APR 2003

L4 8698 S NEISSERIA AND VACCIN?
L5 401 S L4 AND HETEROLOGOUS (10A) EXPRESS?
L6 156 S L5 AND (CINEREA OR LACTARHICA OR ELONGATA OR FLAVA OR FLAVES
L7 0 S L5 AND LACTAMIA
L8 0 S L5 AND LACATAMICA
L9 10 S L5 AND LACTAMICA
L10 9 DUP REM L9 (1 DUPLICATE REMOVED)
L11 150 DUP REM L6 (6 DUPLICATES REMOVED)
L12 136 S L11 AND EXPRESSION VECTOR
L13 6 S L12 AND COMMENSAL
L14 6 S L11 AND VACCINE VECTOR
L15 149 S L11 AND RECOMBINANT
L16 132 S L15 AND HETEROLOGOUS (5A) EXPRESSION
L17 20 S L16 AND (TRANSFERRIN BINDING PROTEIN OR NSPA OR PORIN OR OUT

=> d l12 bib 1-136

L12 ANSWER 1 OF 136 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-549378 [50] WPIDS
DNC C2000-164066
TI Novel method for the treatment of microbial infection, particularly meningococcal disease, using Neisserial **vaccine**.
DC B04 D16
IN BRACEGIRDLE, P; CARTWRIGHT, K; GORRINGE, A R; HUDSON, M J; KROLL, J S; LANGFORD, P R; ROBINSON, A; WEBB, S A R; O'DWYER, C A; REDDIN, K M
PA (UNLO) IMPERIAL COLLEGE SCI TECHNOLOGY & MED; (MICR-N) MICROBIOLOGICAL RES AUTHORITY; (PUBL-N) PUBLIC HEALTH LAB SERVICE BOARD; (BRAC-I) BRACEGIRDLE P; (CART-I) CARTWRIGHT K; (GORR-I) GORRINGE A R; (HUDS-I) HUDSON M J;

(KROL-I) KROLL J S; (LANG-I) LANGFORD P R; (ODWY-I) O'DWYER C A; (REDD-I) REDDIN K M; (ROBI-I) ROBINSON A; (WEBB-I) WEBB S A R

CYC 91

PI WO 2000050074 A2 20000831 (200050)* EN 35p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000026811 A 20000914 (200063)
EP 1154791 A2 20011121 (200176) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2002537352 W 20021105 (200304) 39p
US 2003021812 A1 20030130 (200311)
US 2003026809 A1 20030206 (200313)

ADT WO 2000050074 A2 WO 2000-GB624 20000222; AU 2000026811 A AU 2000-26811 20000222; EP 1154791 A2 EP 2000-905182 20000222, WO 2000-GB624 20000222; JP 2002537352 W JP 2000-600684 20000222, WO 2000-GB624 20000222; US 2003021812 A1 Cont of WO 2000-GB624 20000222, Cont of US 2001-914041 20010822, US 2002-185769 20020701; US 2003026809 A1 CIP of WO 2000-GB624 20000222, US 2001-942583 20010831

FDT AU 2000026811 A Based on WO 200050074; EP 1154791 A2 Based on WO 200050074; JP 2002537352 W Based on WO 200050074

PRAI GB 1999-22561 19990923; GB 1999-4028 19990222

L12 ANSWER 2 OF 136 CAPLUS COPYRIGHT 2003 ACS

AN 2001:207884 CAPLUS

DN 134:227335

TI Oral recombinant Lactobacillus plantarum **vaccines**

IN Shaw, David Michael; Leer, Robert Jan; Pouwels, Peter

PA Nederlandse Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek TNO, Neth.

SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1084709	A1	20010321	EP 1999-203056	19990917
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2001021200	A1	20010329	WO 2000-GB3575	20000918
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1212083	A1	20020612	EP 2000-962689	20000918
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003509469	T2	20030311	JP 2001-524624	20000918
PRAI	EP 1999-203056	A	19990917		
	WO 2000-GB3575	W	20000918		

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 136 USPATFULL

US 2000-246523P 20001108 (60)
US 2000-246524P 20001108 (60)
US 2000-246478P 20001108 (60)
US 2000-246609P 20001108 (60)
US 2000-246613P 20001108 (60)
US 2000-249300P 20001117 (60)
US 2000-249265P 20001117 (60)
US 2000-246610P 20001108 (60)
US 2000-246611P 20001108 (60)
US 2000-230437P 20000906 (60)
US 2000-251990P 20001208 (60)
US 2000-251988P 20001205 (60)
US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20034

L12 ANSWER 7 OF 136 USPATFULL
AN 2003:99224 USPATFULL
TI Live attenuated salmonella strains for producing monovalent or multivalent **vaccines**
IN Vladoianu, Ion R., Cologny, SWITZERLAND
Berdoz, Jose A., Chernex, SWITZERLAND
PI US 2003068328 A1 20030410
AI US 2001-11960 A1 20011105 (10)
PRAI US 2001-327472P 20011004 (60)
DT Utility
FS APPLICATION
LREP MINTZ, LEVIN, COHN, FERRIS, GLOVSKY and POPEO, P.C, One Financial Center, Boston, MA, 02111
CLMN Number of Claims: 35
ECL Exemplary Claim: 1
DRWN 9 Drawing Page(s)
LN.CNT 1436

L12 ANSWER 8 OF 136 USPATFULL
AN 2003:92714 USPATFULL
TI Method of using a facilitator of retroviral entry into cells
IN Littman, Dan R., New York, NY, UNITED STATES
Kwon, Douglas, Long Island City, NY, UNITED STATES
Kooyk, Yvette Van, Nijmegen, NETHERLANDS
Geijtenbeek, Teunis, Nijmegen, NETHERLANDS

PI US 2003064071 A1 20030403
AI US 2002-151274 A1 20020520 (10)
RLI Division of Ser. No. US 2000-517605, filed on 2 Mar 2000, GRANTED, Pat. No. US 6391567
DT Utility
FS APPLICATION
LREP KLAUBER & JACKSON, 411 HACKENSACK AVENUE, HACKENSACK, NJ, 07601
CLMN Number of Claims: 35
ECL Exemplary Claim: 1
DRWN 15 Drawing Page(s)
LN.CNT 3523
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 9 OF 136 USPATFULL
AN 2003:86331 USPATFULL
TI Antibodies that immunospecifically bind BLyS
IN Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
Choi, Gil H., Rockville, MD, UNITED STATES
Vaughan, Tristan, Great Shelford, UNITED KINGDOM
Hilbert, David, Bethesda, MD, UNITED STATES
PI US 2003059937 A1 20030327
AI US 2001-880748 A1 20010615 (9)
PRAI US 2000-212210P 20000616 (60)
US 2000-240816P 20001017 (60)
US 2001-276248P 20010316 (60)
US 2001-277379P 20010321 (60)
US 2001-293499P 20010525 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 96
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 17997
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 10 OF 136 USPATFULL
AN 2003:86270 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2003059875 A1 20030327
AI US 2002-125540 A1 20020419 (10)
RLI Continuation of Ser. No. US 2001-764870, filed on 17 Jan 2001, ABANDONED
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)

L12 ANSWER 11 OF 136 USPATFULL
AN 2003:86257 USPATFULL
TI Antibodies against tumor necrosis factor delta (APRIL)
IN Ruben, Steven M., Brookeville, MD, UNITED STATES
PI US 2003059862 A1 20030327
AI US 2002-151882 A1 20020522 (10)
PRAI US 2001-293100P 20010524 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 61
ECL Exemplary Claim: 1
DRWN 3 Drawing Page(s)
LN.CNT 8330
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 12 OF 136 USPATFULL
AN 2003:79064 USPATFULL
TI Polynucleotide encoding two novel human potassium channel beta-subunits, K+betaM4 and K+betaM5
IN Feder, John N., Belle Mead, NJ, UNITED STATES
Lee, Liana, North Brunswick, NJ, UNITED STATES
Chen, Jian, Princeton, NJ, UNITED STATES
Jackson, Donald, Lawrenceville, NJ, UNITED STATES
Ramanathan, Chandra S., Wallingford, CT, UNITED STATES
Siemers, Nathan O., Pennington, NJ, UNITED STATES
Chang, Han, Princeton Junction, NJ, UNITED STATES
Carroll, Pamela, Princeton, NJ, UNITED STATES
PI US 2003054989 A1 20030320
AI US 2002-86156 A1 20020228 (10)
PRAI US 2001-272190P 20010228 (60)
US 2001-274258P 20010307 (60)
DT Utility
FS APPLICATION
LREP STEPHEN B. DAVIS, BRISTOL-MYERS SQUIBB COMPANY, PATENT DEPARTMENT, P O BOX 4000, PRINCETON, NJ, 08543-4000
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 14 Drawing Page(s)
LN.CNT 13779
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 13 OF 136 USPATFULL
AN 2003:78501 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2003054421 A1 20030320
AI US 2002-102806 A1 20020322 (10)
RLI Continuation of Ser. No. US 2001-925298, filed on 10 Aug 2001, PENDING
Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20141
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 14 OF 136 USPATFULL
AN 2003:78459 USPATFULL

US 2000-241221P 20001020 (60)
US 2000-246475P 20001108 (60)
US 2000-231243P 20000908 (60)
US 2000-233065P 20000914 (60)
US 2000-232398P 20000914 (60)
US 2000-234998P 20000925 (60)
US 2000-246477P 20001108 (60)
US 2000-246528P 20001108 (60)
US 2000-246525P 20001108 (60)
US 2000-246476P 20001108 (60)
US 2000-246526P 20001108 (60)
US 2000-249209P 20001117 (60)
US 2000-246527P 20001108 (60)
US 2000-246523P 20001108 (60)
US 2000-246524P 20001108 (60)
US 2000-246478P 20001108 (60)
US 2000-246609P 20001108 (60)
US 2000-246613P 20001108 (60)
US 2000-249300P 20001117 (60)
US 2000-249265P 20001117 (60)
US 2000-246610P 20001108 (60)
US 2000-246611P 20001108 (60)
US 2000-230437P 20000906 (60)
US 2000-251990P 20001208 (60)
US 2000-251988P 20001205 (60)
US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 18653
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 16 OF 136 USPATFULL
AN 2003:74145 USPATFULL
TI Rotavirus enterotoxin adjuvant
IN Estes, Mary K., Friendswood, TX, United States
PA Baylor College of Medicine, Houston, TX, United States (U.S. corporation)
PI US 6534067 B1 20030318
AI US 2000-687698 20001013 (9)
PRAI US 1999-159390P 19991014 (60)
DT Utility
FS GRANTED

EXNAM Primary Examiner: Housel, James; Assistant Examiner: Foley, Shanon
LREP Fulbright & Jaworski L.L.P.
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1809
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 17 OF 136 USPATFULL
AN 2003:72168 USPATFULL
TI 64 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Greene, John M., Gaithersburg, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Feng, Ping, Gaithersburg, MD, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
Hu, Jing-Shan, Mountain View, CA, UNITED STATES
Ferrie, Ann M., Tewksbury, MA, UNITED STATES
Yu, Guo-Liang, Berkeley, CA, UNITED STATES
Duan, Roxanne D., Bethesda, MD, UNITED STATES
Janat, Fouad, Westerly, RI, UNITED STATES
PI US 2003050455 A1 20030313
AI US 2001-776724 A1 20010206 (9)
RLI Continuation-in-part of Ser. No. US 2000-669688, filed on 26 Sep 2000, PENDING Continuation of Ser. No. US 1999-229982, filed on 14 Jan 1999, PENDING Continuation-in-part of Ser. No. WO 1998-US14613, filed on 15 Jul 1998, UNKNOWN
PRAI US 2000-180909P 20000208 (60)
US 1997-53442P 19970722 (60)
US 1997-56359P 19970818 (60)
US 1997-52661P 19970716 (60)
US 1997-52872P 19970716 (60)
US 1997-52871P 19970716 (60)
US 1997-52874P 19970716 (60)
US 1997-52873P 19970716 (60)
US 1997-52870P 19970716 (60)
US 1997-52875P 19970716 (60)
US 1997-53440P 19970722 (60)
US 1997-53441P 19970722 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 21934
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 18 OF 136 USPATFULL
AN 2003:71367 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2003049652 A1 20030313
AI US 2002-92256 A1 20020307 (10)
RLI Continuation of Ser. No. US 2001-764884, filed on 17 Jan 2001, ABANDONED
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)

US 2000-246524P 20001108 (60)
US 2000-246478P 20001108 (60)
US 2000-246609P 20001108 (60)
US 2000-246613P 20001108 (60)
US 2000-249300P 20001117 (60)
US 2000-249265P 20001117 (60)
US 2000-246610P 20001108 (60)
US 2000-246611P 20001108 (60)
US 2000-230437P 20000906 (60)
US 2000-251990P 20001208 (60)
US 2000-251988P 20001205 (60)
US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 22593

L12 ANSWER 20 OF 136 USPATFULL
AN 2003:71363 USPATFULL
TI 37 staphylococcus aureus genes and polypeptides
IN Choi, Gil H., Rockville, MD, UNITED STATES
PI US 2003049648 A1 20030313
AI US 2002-84205 A1 20020228 (10)
RLI Continuation-in-part of Ser. No. WO 2000-US23773, filed on 31 Aug 2000, UNKNOWN
PRAI US 1999-151933P 19990901 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 9769
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 21 OF 136 USPATFULL
AN 2003:71333 USPATFULL
TI 186 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Carter, Kenneth C., North Potomac, MD, UNITED STATES
Bednarik, Daniel P., Columbia, MD, UNITED STATES

Endress, Gregory A., Florence, MA, UNITED STATES
Yu, Guo-Liang, Berkeley, CA, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Feng, Ping, Gaithersburg, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Greene, John M., Gaithersburg, MD, UNITED STATES
Ferrie, Ann M., Painted Post, NY, UNITED STATES
Duan, D. Roxanne, Bethesda, MD, UNITED STATES
Hu, Jing-Shan, Mountain View, CA, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
Olsen, Henrik S., Gaithersburg, MD, UNITED STATES
Fischer, Carrie L., Burke, VA, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Brewer, Laurie A., St. Paul, MN, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
LaFleur, David W., Washington, DC, UNITED STATES
Li, Yi, Sunnyvale, CA, UNITED STATES
Zeng, Zhizhen, Lansdale, PA, UNITED STATES
Kyaw, Hla, Frederick, MD, UNITED STATES
PI US 2003049618 A1 20030313
AI US 2001-809391 A1 20010316 (9)
RLI Continuation-in-part of Ser. No. US 1998-149476, filed on 8 Sep 1998, GRANTED, Pat. No. US 6420526 Continuation-in-part of Ser. No. WO 1998-US4493, filed on 6 Mar 1998, UNKNOWN
PRAI US 2000-190068P 20000317 (60)
US 1997-40162P 19970307 (60)
US 1997-40333P 19970307 (60)
US 1997-38621P 19970307 (60)
US 1997-40626P 19970307 (60)
US 1997-40334P 19970307 (60)
US 1997-40336P 19970307 (60)
US 1997-40163P 19970307 (60)
US 1997-47600P 19970523 (60)
US 1997-47615P 19970523 (60)
US 1997-47597P 19970523 (60)
US 1997-47502P 19970523 (60)
US 1997-47633P 19970523 (60)
US 1997-47583P 19970523 (60)
US 1997-47617P 19970523 (60)
US 1997-47618P 19970523 (60)
US 1997-47503P 19970523 (60)
US 1997-47592P 19970523 (60)
US 1997-47581P 19970523 (60)
US 1997-47584P 19970523 (60)
US 1997-47500P 19970523 (60)
US 1997-47587P 19970523 (60)
US 1997-47492P 19970523 (60)
US 1997-47598P 19970523 (60)
US 1997-47613P 19970523 (60)
US 1997-47582P 19970523 (60)
US 1997-47596P 19970523 (60)
US 1997-47612P 19970523 (60)
US 1997-47632P 19970523 (60)
US 1997-47601P 19970523 (60)
US 1997-43580P 19970411 (60)
US 1997-43568P 19970411 (60)
US 1997-43314P 19970411 (60)
US 1997-43569P 19970411 (60)
US 1997-43311P 19970411 (60)
US 1997-43671P 19970411 (60)
US 1997-43674P 19970411 (60)
US 1997-43669P 19970411 (60)
US 1997-43312P 19970411 (60)

CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 26235

L12 ANSWER 22 OF 136 USPATFULL
AN 2003:65375 USPATFULL
TI Dendritic cells transduced with a wild-type self gene elicit potent antitumor immune responses
IN Gabrilovich, Dmitry, Aurora, IL, UNITED STATES
Carbone, David, Franklin, TN, UNITED STATES
Chada, Sunil, Missouri City, TX, UNITED STATES
Mhashilkar, Abner, Houston, TX, UNITED STATES
PA Vanderbilt University and Introgen Therapeutics, Inc. (U.S. corporation)
PI US 2003045499 A1 20030306
AI US 2002-216346 A1 20020809 (10)
RLI Division of Ser. No. US 2000-526320, filed on 15 Mar 2000, PENDING
PRAI US 1999-124482P 19990315 (60)
US 1999-124388P 19990315 (60)
DT Utility
FS APPLICATION
LREP Robert E. Hanson, FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600 Congress Avenue, Austin, TX, 78701
CLMN Number of Claims: 60
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 3256

L12 ANSWER 23 OF 136 USPATFULL
AN 2003:64786 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2003044907 A1 20030306
AI US 2002-80110 A1 20020222 (10)
RLI Continuation of Ser. No. US 2001-764857, filed on 17 Jan 2001, ABANDONED
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)

FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17990
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 27 OF 136 USPATFULL
AN 2003:60089 USPATFULL
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)
PI US 6528289 B1 20030304
AI US 2000-643990 20000823 (9)
RLI Continuation of Ser. No. US 1995-487429, filed on 7 Jun 1995
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Martinell, James
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4428
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 28 OF 136 USPATFULL
AN 2003:57430 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2003039994 A1 20030227
AI US 2002-91526 A1 20020307 (10)
RLI Continuation of Ser. No. US 2001-764889, filed on 17 Jan 2001, PENDING
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)

US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17108
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 30 OF 136 USPATFULL
AN 2003:57103 USPATFULL
TI Anti-fungal composition
IN Jira, Vic, El Monte, CA, UNITED STATES
Jirathitikal, Vichai, Chachoengsao, THAILAND
PI US 2003039667 A1 20030227
AI US 2002-228280 A1 20020827 (10)
PRAI US 2001-314666P 20010827 (60)
DT Utility
FS APPLICATION
LREP BLANK ROME COMISKY & MCCAULEY, LLP, 900 17TH STREET, N.W., SUITE 1000, WASHINGTON, DC, 20006
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1664
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 31 OF 136 USPATFULL
AN 2003:51547 USPATFULL
TI Signal transduction pathway component polynucleotides, polypeptides, antibodies and methods based thereon
IN Barash, Steven C., Rockville, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Young, Paul E., Berkeley, CA, UNITED STATES
Rohrschneider, Larry R., Seattle, WA, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2003036505 A1 20030220
AI US 2001-955999 A1 20010920 (9)
PRAI US 2000-234997P 20000925 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23

ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 24363
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 32 OF 136 USPATFULL
AN 2003:50834 USPATFULL
TI Combination therapy for the prevention or treatment of cancer, inflammatory disorders or infectious diseases in a subject
IN Chen, Shu-Hsia, New York, NY, UNITED STATES
Pan, Ping-Yan, New York, NY, UNITED STATES
Woo, Savio L.C., New York, NY, UNITED STATES
PI US 2003035790 A1 20030220
AI US 2002-165643 A1 20020607 (10)
RLI Continuation-in-part of Ser. No. US 2000-735296, filed on 14 Jan 2000, PENDING
PRAI US 1999-115992P 19990115 (60)
DT Utility
FS APPLICATION
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
CLMN Number of Claims: 40
ECL Exemplary Claim: 1
DRWN 23 Drawing Page(s)
LN.CNT 6417
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 33 OF 136 USPATFULL
AN 2003:38352 USPATFULL
TI 143 human secreted proteins
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Komatsoulis, George A., Silver Spring, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES
Duan, Roxanne D., Bethesda, MD, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
PI US 2003027999 A1 20030206
AI US 2001-986480 A1 20011108 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US12788, filed on 11 May 2000, UNKNOWN
PRAI US 1999-134068P 19990513 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 29687
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 34 OF 136 USPATFULL
AN 2003:38129 USPATFULL
TI 29 human cancer associated proteins
IN Roschke, Viktor, Rockville, MD, UNITED STATES
PI US 2003027776 A1 20030206
AI US 2001-23896 A1 20011221 (10)
RLI Continuation-in-part of Ser. No. WO 2000-US23794, filed on 30 Aug 2000, UNKNOWN
PRAI US 1999-152296P 19990903 (60)
US 1999-158003P 19991006 (60)
DT Utility
FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 23049
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 35 OF 136 USPATFULL
AN 2003:37165 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
Reddin, Karen Margaret, Salisbury, UNITED KINGDOM
PI US 2003026809 A1 20030206
AI US 2001-942583 A1 20010831 (9)
RLI Continuation-in-part of Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 36 OF 136 USPATFULL
AN 2003:31119 USPATFULL
TI Attractin-like polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2003023070 A1 20030130
AI US 2002-84994 A1 20020301 (10)
RLI Continuation of Ser. No. US 2001-790621, filed on 23 Feb 2001, PENDING
Continuation-in-part of Ser. No. WO 2000-US23663, filed on 29 Aug 2000, UNKNOWN
PRAI US 1999-151348P 19990830 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12029
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 37 OF 136 USPATFULL
AN 2003:30391 USPATFULL
TI Kunitz-type protease inhibitor polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES

Ni, Jian, Germantown, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2003022338 A1 20030130
AI US 2002-125522 A1 20020419 (10)
RLI Continuation of Ser. No. US 2001-858718, filed on 17 May 2001, PENDING Continuation-in-part of Ser. No. WO 2000-US31917, filed on 21 Nov 2000, UNKNOWN
PRAI US 1999-166751P 19991122 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12021
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 38 OF 136 USPATFULL
AN 2003:29870 USPATFULL
TI Neisserial **vaccine** compositions and methods
IN Robinson, Andrew, Salisbury, UNITED KINGDOM
Gorringe, Andrew Richard, Salisbury, UNITED KINGDOM
Hudson, Michael John, Salisbury, UNITED KINGDOM
Bracegirdle, Philippa, Salisbury, UNITED KINGDOM
Kroll, John Simon, Oxford, UNITED KINGDOM
Langford, Paul Richard, Oxford, UNITED KINGDOM
Webb, Steven Anthony Rochford, Subiaco, AUSTRALIA
Cartwright, Keith, Brobury, UNITED KINGDOM
O'Dwyer, Cliona Anne, Furbo, IRELAND
PA Microbiological Research Authority (non-U.S. corporation)
PI US 2003021812 A1 20030130
AI US 2002-185769 A1 20020701 (10)
RLI Continuation of Ser. No. US 914041, PENDING A 371 of International Ser. No. WO 2000-GB624, filed on 22 Feb 2000, UNKNOWN
PRAI GB 1999-4028 19990222
GB 1999-22561 19990923
DT Utility
FS APPLICATION
LREP STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 5 Drawing Page(s)
LN.CNT 803
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 39 OF 136 USPATFULL
AN 2003:29860 USPATFULL
TI Lawsonia intracellularis proteins, and related methods and materials
IN Rosey, Everett L., Preston, CT, UNITED STATES
PI US 2003021802 A1 20030130
AI US 2002-210296 A1 20020801 (10)
RLI Continuation of Ser. No. US 2000-689065, filed on 12 Oct 2000, PENDING
PRAI US 1999-160922P 19991022 (60)
US 1999-163858P 19991105 (60)
DT Utility
FS APPLICATION
LREP KOHN & ASSOCIATES, PLLC, SUITE 410, 30500 NORTHWESTERN HWY., FARMINGTON HILLS, MI, 48334
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 8 Drawing Page(s)
LN.CNT 3947

US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 27547
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 41 OF 136 USPATFULL
AN 2003:13200 USPATFULL
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Science, Inc., Rockville, MD, United States (U.S. corporation)
Johns Hopkins University, Baltimore, MD, United States (U.S. corporation)
PI US 6506581 B1 20030114
AI US 2000-557884 20000425 (9)
RLI Continuation of Ser. No. US 1995-476102, filed on 7 Jun 1995
Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Brusca, John S.
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 51
ECL Exemplary Claim: 1
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4510
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 42 OF 136 USPATFULL
AN 2002:344432 USPATFULL
TI ANTIGEN LIBRARY IMMUNIZATION
IN PUNNONEN, JUHA, PALO ALTO, CA, UNITED STATES
BASS, STEVEN H., HILLSBOROUGH, CA, UNITED STATES
WHALEN, ROBERT GERALD, PARIS, FRANCE
HOWARD, RUSSELL, LOS ALTOS HILLS, CA, UNITED STATES
STEMMER, WILLEM P. C., LOS GATOS, CA, UNITED STATES

PI US 2002198162 A1 20021226
US 6541011 B2 20030401
AI US 1999-247890 A1 19990210 (9)
PRAI US 1998-74294P 19980211 (60)
US 1998-105509P 19981023 (60)
DT Utility
FS APPLICATION
LREP MAXYGEN, INC., 515 GALVESTON DRIVE, RED WOOD CITY, CA, 94063
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 21 Drawing Page(s)
LN.CNT 5366
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 43 OF 136 USPATFULL
AN 2002:344413 USPATFULL
TI B7-like polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Chen, Lieping, Rochester, MN, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PI US 2002198143 A1 20021226
AI US 2001-790622 A1 20010223 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US23792, filed on 30 Aug 2000, UNKNOWN
PRAI US 1999-152317P 19990903 (60)
US 2000-200346P 20000428 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 15 Drawing Page(s)
LN.CNT 12424
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 44 OF 136 USPATFULL
AN 2002:343975 USPATFULL
TI Serine protease polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002197701 A1 20021226
AI US 2002-67761 A1 20020208 (10)
RLI Continuation of Ser. No. US 2001-804156, filed on 13 Mar 2001, PENDING
PRAI US 2000-189025P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13077
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 45 OF 136 USPATFULL
AN 2002:337390 USPATFULL
TI Human polynucleotides, polypeptides, and antibodies
IN Moore, Paul A., Germantown, MD, UNITED STATES
Coleman, Timothy A., Gaithersburg, MD, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Dillon, Patrick J., Carlsbad, CA, UNITED STATES

Ni, Jian, Germantown, MD, UNITED STATES
Li, Yi, Sunnyvale, CA, UNITED STATES
Endress, Gregory A., Florence, MA, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
PI US 2002192749 A1 20021219
AI US 2001-969384 A1 20011003 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US10542, filed on 2 Apr 2001, UNKNOWN
PRAI US 2000-194118P 20000403 (60)
US 2000-236384P 20000929 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13925
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 46 OF 136 USPATFULL
AN 2002:323332 USPATFULL
TI 26 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES
Duan, Roxanne D., Bethesda, MD, UNITED STATES
Soppet, Daniel R., Laytonsville, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
LaFleur, David W., Washington, DC, UNITED STATES
Olsen, Henrik, Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Young, Paul, Gaithersburg, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2002183503 A1 20021205
AI US 2002-42141 A1 20020111 (10)
RLI Continuation of Ser. No. US 2000-726643, filed on 1 Dec 2000, PENDING
Continuation-in-part of Ser. No. WO 2000-US15187, filed on 2 Jun 2000, UNKNOWN
PRAI US 1999-137725P 19990607 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20367
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 47 OF 136 USPATFULL
AN 2002:322538 USPATFULL
TI ADAM polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Hastings, Gregg A., Westlake Village, CA, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Wei, Ping, Brookeville, MD, UNITED STATES
PI US 2002182702 A1 20021205
AI US 2001-955504 A1 20010919 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US14308, filed on 25 May 2000, UNKNOWN Continuation-in-part of Ser. No. US 2000-712907, filed on 16 Nov 2000, PENDING
PRAI US 2000-234222P 20000921 (60)

US 1999-136388P 19990527 (60)
US
US
US 1999-136388P 19990527 (60)
US 1999-142930P 19990709 (60)
US 2000-178717P 20000128 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 13921
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 48 OF 136 USPATFULL
AN 2002:308509 USPATFULL
TI ADAM polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Hastings, Gregg A., Westlake Village, CA, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Wei, Ping, Brookeville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES (U.S. corporation)
PI US 2002173640 A1 20021121
AI US 2002-125452 A1 20020419 (10)
RLI Continuation of Ser. No. US 2001-955504, filed on 19 Sep 2001, PENDING
Continuation of Ser. No. US 2000-712907, filed on 16 Nov 2000, PENDING
Continuation of Ser. No. WO 2000-US14308, filed on 25 May 2000, UNKNOWN
PRAI US 2000-234222P 20000921 (60)
US 1999-136388P 19990527 (60)
US 1999-142930P 19990709 (60)
US 2000-178717P 20000128 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 13925
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 49 OF 136 USPATFULL
AN 2002:308333 USPATFULL
TI Protein tyrosine kinase receptor polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PI US 2002173458 A1 20021121
AI US 2001-836392 A1 20010418 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US28066, filed on 12 Oct 2000, UNKNOWN
PRAI US 1999-159542P 19991015 (60)
US 1999-165914P 19991117 (60)
US 2000-189027P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings

LN.CNT 13395
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 50 OF 136 USPATFULL
AN 2002:307870 USPATFULL
TI 28 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Li, Yi, Sunnyvale, CA, UNITED STATES
Zeng, Zhizhen, Lansdale, PA, UNITED STATES
Kyaw, Hla, Frederick, MD, UNITED STATES
Fischer, Carrie L., Burke, VA, UNITED STATES
Li, Haodong, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Wei, Ying-Fei, Berkeley, CA, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Greene, John M., Gaithersburg, MD, UNITED STATES
Ferrie, Ann M., Tewksbury, MA, UNITED STATES
PI US 2002172994 A1 20021121
AI US 2001-852797 A1 20010511 (9)
RLI Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, PENDING Continuation-in-part of Ser. No. WO 1998-US4858, filed on 12 Mar 1998, UNKNOWN
PRAI US 2001-265583P 20010202 (60)
US 1997-40762P 19970314 (60)
US 1997-40710P 19970314 (60)
US 1997-50934P 19970530 (60)
US 1997-48100P 19970530 (60)
US 1997-48357P 19970530 (60)
US 1997-48189P 19970530 (60)
US 1997-57765P 19970905 (60)
US 1997-48970P 19970606 (60)
US 1997-68368P 19971219 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17794
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 51 OF 136 USPATFULL
AN 2002:301167 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002168711 A1 20021114
AI US 2001-764868 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)

US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 31967
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 52 OF 136 USPATFULL
AN 2002:295334 USPATFULL
TI Steroid hormone receptor polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002165384 A1 20021107
AI US 2002-103511 A1 20020322 (10)
RLI Continuation of Ser. No. US 2001-805204, filed on 14 Mar 2001, PENDING Continuation-in-part of Ser. No. WO 2000-US24517, filed on 7 Sep 2000, UNKNOWN
PRAI US 2000-189032P 20000314 (60)
US 1999-152932P 19990909 (60)
DT Utility
FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11571
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 53 OF 136 USPATFULL
AN 2002:295092 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002165137 A1 20021107
AI US 2001-860670 A1 20010521 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US1346, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764859, filed on 17 Jan 2001, PENDING
PRAI US 2000-205515P 20000519 (60)
US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-216880P 20000707 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-236367P 20000929 (60)
US 2000-239937P 20001013 (60)
US 2000-249210P 20001117 (60)
US 2000-249211P 20001117 (60)
US 2000-249214P 20001117 (60)
US 2000-231243P 20000908 (60)
US 2000-246477P 20001108 (60)
US 2000-246528P 20001108 (60)
US 2000-246525P 20001108 (60)
US 2000-246476P 20001108 (60)
US 2000-246526P 20001108 (60)
US 2000-249265P 20001117 (60)
US 2000-230437P 20000906 (60)
US 2000-251990P 20001208 (60)
US 2000-251988P 20001205 (60)
US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)

US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20253
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 54 OF 136 USPATFULL
AN 2002:294651 USPATFULL
TI Methods and compositions for treating and preventing infection using human interferon regulatory factor 3
IN Moore, Paul A., Germantown, MD, UNITED STATES
Pith-Rowe, Paula, Baltimore, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002164694 A1 20021107
AI US 2001-975253 A1 20011012 (9)
RLI Continuation-in-part of Ser. No. US 1996-705771, filed on 30 Aug 1996, GRANTED, Pat. No. US 6054289
PRAI US 2000-239936P 20001013 (60)
US 1995-2993P 19950830 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 36
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 8370
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 55 OF 136 USPATFULL
AN 2002:294650 USPATFULL
TI TM4SF receptor polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, 20850 (U.S. corporation)
PI US 2002164693 A1 20021107
AI US 2001-972970 A1 20011010 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US11130, filed on 5 Apr 2001, UNKNOWN
PRAI US 2000-195336P 20000410 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11940
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 56 OF 136 USPATFULL
AN 2002:294649 USPATFULL
TI Immune system-related polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Hilbert, David, Bethesda, MD, UNITED STATES
Kenny, Joseph J., Damascus, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES

Choi, Gil H., Rockville, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Gruber, Joachim R., Dallas, TX, UNITED STATES
Endress, Gregory A., Florence, MA, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002164692 A1 20021107
AI US 2001-949842 A1 20010912 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US7260, filed on 7 Mar 2001, UNKNOWN
PRAI US 2000-187873P 20000308 (60)
US 2000-224367P 20000811 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13952
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 57 OF 136 USPATFULL
AN 2002:294642 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002164685 A1 20021107
AI US 2001-764857 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)

US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 16891
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 58 OF 136 USPATFULL
AN 2002:288336 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002161208 A1 20021031
AI US 2001-764884 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 18396
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 59 OF 136 USPATFULL
AN 2002:288320 USPATFULL
TI Helicobacter pylori live **vaccine**
IN Meyer, Thomas F., Berlin, GERMANY, FEDERAL REPUBLIC OF
Haas, Rainer, Munchen, GERMANY, FEDERAL REPUBLIC OF
Zhengxin, Yan, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Gomez-Duarte, Oscar, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Lucas, Bernadette, Berlin, GERMANY, FEDERAL REPUBLIC OF
Maurer, Jochen, Stadtbergen, GERMANY, FEDERAL REPUBLIC OF
Gibbs, Carol Patrice, Augsburg, GERMANY, FEDERAL REPUBLIC OF
Lattemann, Claus Tobias, Neusaess, GERMANY, FEDERAL REPUBLIC OF
PI US 2002161192 A1 20021031
AI US 2001-976297 A1 20011015 (9)
RLI Continuation-in-part of Ser. No. US 1999-284233, filed on 28 Jul 1999, PENDING A 371 of International Ser. No. WO 1997-EP4744, filed on 1 Sep 1997, UNKNOWN
PRAI EP 1996-116337 19961011
DT Utility
FS APPLICATION
LREP ARENT FOX KINTNER PLOTKIN & KAHN, 1050 CONNECTICUT AVENUE, N.W., SUITE 400, WASHINGTON, DC, 20036
CLMN Number of Claims: 16

ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 1920
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 60 OF 136 USPATFULL
AN 2002:287630 USPATFULL
TI Serine/threonine phosphatase polynucleotides, polypeptides, and antibodies
IN Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002160493 A1 20021031
AI US 2001-941831 A1 20010830 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US6256, filed on 28 Feb 2001, UNKNOWN
PRAI US 2000-186350P 20000302 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 14729
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 61 OF 136 USPATFULL
AN 2002:287628 USPATFULL
TI Human Serpin polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002160491 A1 20021031
AI US 2001-912628 A1 20010726 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5082, filed on 29 Feb 2000, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US2484, filed on 26 Jan 2001, UNKNOWN
PRAI US 2000-178769P 20000128 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12380
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 62 OF 136 USPATFULL
AN 2002:283365 USPATFULL
TI Invasion associated genes from **Neisseria** meningitidis serogroup B
IN Ribot, Efrain M., Atlanta, GA, United States
Stephens, David S., Stone Mountain, GA, United States
Raymond, Nigel, Wellington, NEW ZEALAND
Quinn, Frederick D., Avondale Estates, GA, United States
PA Centers for Disease Control and Prevention, as represented by the Secretary, Department of Health and Human Services, Atlanta, GA, United States (U.S. government)
PI US 6472518 B1 20021029
WO 9817805 19980430
AI US 1999-284926 19990817 (9)
WO 1997-US19424 19971024
19990817 PCT 371 date
PRAI US 1996-30432P 19961024 (60)
DT Utility

FS GRANTED
EXNAM Primary Examiner: Graser, Jennifer E.
LREP Needle & Roseberg, P.C.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 27 Drawing Figure(s); 27 Drawing Page(s)
LN.CNT 3137
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 63 OF 136 USPATFULL
AN 2002:283360 USPATFULL
TI Keratinocyte derived interferon
IN LaFleur, David W., Washington, DC, United States
Moore, Paul A., Germantown, MD, United States
Ruben, Steven M., Olney, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
PI US 6472512 B1 20021029
US 2002187950 A1 20021212
AI US 2001-908594 20010720 (9)
RLI Continuation-in-part of Ser. No. US 2000-487792, filed on 20 Jan 2000
Continuation-in-part of Ser. No. WO 2000-US1239, filed on 20 Jan 2000
Continuation-in-part of Ser. No. US 1999-358587, filed on 21 Jul 1999
Continuation-in-part of Ser. No. WO 1999-US16424, filed on 21 Jul 1999
Continuation-in-part of Ser. No. US 2001-358587, filed on 24 May 2001, now abandoned Continuation-in-part of Ser. No. WO 1998-US9916424, filed on 21 Jul 1998, now abandoned
PRAI US 2001-292934P 20010524 (60)
US 2000-219621P 20000721 (60)
US 1998-93643P 19980721 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Kunz, Gary L.; Assistant Examiner: Seharaseyon, Jegatheesan
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 33
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 14148
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 64 OF 136 USPATFULL
AN 2002:280103 USPATFULL
TI Calcium channel polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2002155539 A1 20021024
AI US 2002-50786 A1 20020118 (10)
RLI Continuation of Ser. No. US 2001-774028, filed on 31 Jan 2001, PENDING
Continuation-in-part of Ser. No. WO 2000-US20392, filed on 27 Jul 2000, UNKNOWN
PRAI US 1999-145958P 19990728 (60)
US 1999-149446P 19990818 (60)
US 2000-189064P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11310
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 65 OF 136 USPATFULL
AN 2002:273550 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002151681 A1 20021017
AI US 2001-925300 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5988, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 29771
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 66 OF 136 USPATFULL
AN 2002:273351 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002151479 A1 20021017
AI US 2001-764873 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)

US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17167
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 67 OF 136 USPATFULL
AN 2002:272888 USPATFULL
TI Human polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002151009 A1 20021017
AI US 2001-939825 A1 20010828 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US5498, filed on 22 Feb 2001, UNKNOWN
PRAI US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 14831
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 68 OF 136 USPATFULL
AN 2002:272419 USPATFULL
TI Tumor necrosis factor-gamma
IN Yu, Guo-Liang, Berkeley, CA, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Zhang, Jun, Bethesda, MD, UNITED STATES
PI US 2002150534 A1 20021017
AI US 2001-899059 A1 20010706 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US11689, filed on 28 Apr 2000, UNKNOWN Continuation-in-part of Ser. No. US 1999-246129, filed on 8 Feb 1999, PENDING Continuation-in-part of Ser. No. US 1998-131237, filed on 7 Aug 1998, PENDING Continuation-in-part of Ser. No. US 1998-5020, filed on 9 Jan 1998, ABANDONED Continuation-in-part of Ser. No. US 1995-461246, filed on 5 Jun 1995, ABANDONED Continuation-in-part of Ser. No. WO 1994-US12880, filed on 7 Nov 1994, UNKNOWN
PRAI US 2001-278449P 20010326 (60)

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       US 2000-216879P     20000707 (60)
       US 2000-180908P     20000208 (60)
       US 1999-134067P     19990513 (60)
       US 1999-132227P     19990503 (60)
       US 1999-131963P     19990430 (60)
       US 1998-74047P      19980209 (60)
DT     Utility
FS     APPLICATION
LREP   HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN   Number of Claims: 49
ECL    Exemplary Claim: 1
DRWN   33 Drawing Page(s)
LN.CNT 12881
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12  ANSWER 69 OF 136  USPATFULL
AN     2002:243562  USPATFULL
TI     Nucleic acids, proteins, and antibodies
IN     Rosen, Craig A., Laytonsville, MD, UNITED STATES
       Ruben, Steven M., Olney, MD, UNITED STATES
       Barash, Steven C., Rockville, MD, UNITED STATES
PI     US 2002132753       A1   20020919
AI     US 2001-764864      A1   20010117 (9)
PRAI   US 2000-179065P      20000131 (60)
       US 2000-180628P      20000204 (60)
       US 2000-214886P      20000628 (60)
       US 2000-217487P      20000711 (60)
       US 2000-225758P      20000814 (60)
       US 2000-220963P      20000726 (60)
       US 2000-217496P      20000711 (60)
       US 2000-225447P      20000814 (60)
       US 2000-218290P      20000714 (60)
       US 2000-225757P      20000814 (60)
       US 2000-226868P      20000822 (60)
       US 2000-216647P      20000707 (60)
       US 2000-225267P      20000814 (60)
       US 2000-216880P      20000707 (60)
       US 2000-225270P      20000814 (60)
       US 2000-251869P      20001208 (60)
       US 2000-235834P      20000927 (60)
       US 2000-234274P      20000921 (60)
       US 2000-234223P      20000921 (60)
       US 2000-228924P      20000830 (60)
       US 2000-224518P      20000814 (60)
       US 2000-236369P      20000929 (60)
       US 2000-224519P      20000814 (60)
       US 2000-220964P      20000726 (60)
       US 2000-241809P      20001020 (60)
       US 2000-249299P      20001117 (60)
       US 2000-236327P      20000929 (60)
       US 2000-241785P      20001020 (60)
       US 2000-244617P      20001101 (60)
       US 2000-225268P      20000814 (60)
       US 2000-236368P      20000929 (60)
       US 2000-251856P      20001208 (60)
       US 2000-251868P      20001208 (60)
       US 2000-229344P      20000901 (60)
       US 2000-234997P      20000925 (60)
       US 2000-229343P      20000901 (60)
       US 2000-229345P      20000901 (60)
       US 2000-229287P      20000901 (60)
       US 2000-229513P      20000905 (60)
       US 2000-231413P      20000908 (60)
       US 2000-229509P      20000905 (60)
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US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 37784
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 70 OF 136 USPATFULL
AN 2002:243122 USPATFULL
TI Novel constructs and their use in metabolic pathway engineering
IN Liu, Lu, Redwood City, CA, UNITED STATES
Zhu, Genhai, San Jose, CA, UNITED STATES
PA MPEP @ Page 300-M (U.S. corporation)
PI US 2002132308 A1 20020919
AI US 2001-932254 A1 20010816 (9)
PRAI US 2000-227719P 20000824 (60)
DT Utility
FS APPLICATION
LREP QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C., P O BOX 458, ALAMEDA, CA, 94501
CLMN Number of Claims: 104
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2894
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 71 OF 136 USPATFULL
AN 2002:221965 USPATFULL
TI Steroid hormone receptor polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002120110 A1 20020829
AI US 2001-805204 A1 20010314 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US24517, filed on 7 Sep 2000, UNKNOWN
PRAI US 2000-189032P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11573
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 72 OF 136 USPATFULL
AN 2002:221958 USPATFULL
TI 17 human secreted proteins
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Komatsoulis, George A., Silver Spring, MD, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES

Soppet, Daniel R., Centreville, VA, UNITED STATES
Olsen, Henrik S., Gaithersburg, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Wei, Ping, Brookeville, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Duan, D. Roxanne, Bethesda, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Choi, Gil H., Rockville, MD, UNITED STATES
Fiscella, Michele, Bethesda, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002120103 A1 20020829
AI US 2001-915582 A1 20010727 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US1431, filed on 17 Jan 2001, UNKNOWN
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-231968P 20000912 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20680
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 73 OF 136 USPATFULL
AN 2002:221379 USPATFULL
TI Trefoil domain-containing polynucleotides, polypeptides, and antibodies
IN Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002119519 A1 20020829
AI US 2001-891171 A1 20010626 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US34920, filed on 22 Dec 2000, UNKNOWN
PRAI US 1999-171618P 19991223 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12171
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 74 OF 136 USPATFULL
AN 2002:198680 USPATFULL
TI Extracellular matrix polynucleotides, polypeptides, and antibodies
IN Fiscella, Michele, Bethesda, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002106780 A1 20020808
AI US 2001-978249 A1 20011017 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US11643, filed on 11 Apr 2001, UNKNOWN
PRAI US 2000-198123P 20000418 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22

ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13488
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 75 OF 136 USPATFULL
AN 2002:198631 USPATFULL
TI Bcl-2-like polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Duan, D. Roxanne, Bethesda, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PI US 2002106731 A1 20020808
AI US 2001-912599 A1 20010726 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US3080, filed on 31 Jan 2001, UNKNOWN
PRAI US 2000-179487P 20000201 (60)
US 2000-180697P 20000207 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12354
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 76 OF 136 USPATFULL
AN 2002:192264 USPATFULL
TI Staphylococcus aureus polynucleotides and polypeptides
IN Choi, Gil H., Rockville, MD, UNITED STATES
PI US 2002103338 A1 20020801
AI US 2001-925637 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US23773, filed on 31 Aug 2000, UNKNOWN Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan 1997, PENDING Continuation-in-part of Ser. No. US 1997-956171, filed on 20 Oct 1997, PENDING
PRAI US 1999-151933P 19990901 (60)
US 1996-9861P 19960105 (60)
US 1996-9861P 19960105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 96
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 9945
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 77 OF 136 USPATFULL
AN 2002:191573 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002102638 A1 20020801
AI US 2001-764846 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)

US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
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US 2000-228924P 20000830 (60)
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US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
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US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
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US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 22814
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 78 OF 136 USPATFULL
AN 2002:185613 USPATFULL
TI Human tumor, necrosis factor receptor-like proteins TR11, TR11SV1 and TR11SV2
IN Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2002098525 A1 20020725
AI US 2001-915593 A1 20010727 (9)
RLI Continuation-in-part of Ser. No. US 2000-512363, filed on 23 Feb 2000, PENDING Continuation-in-part of Ser. No. US 1998-176200, filed on 21 Oct 1998, PENDING
PRAI US 2000-221577P 20000728 (60)

US 1999-144076P 19990716 (60)
US 1999-134172P 19990513 (60)
US 1999-121648P 19990224 (60)
US 1997-63212P 19971021 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN 11 Drawing Page(s)
LN.CNT 12618
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 79 OF 136 USPATFULL
AN 2002:179165 USPATFULL
TI Plasminogen-like polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002094955 A1 20020718
AI US 2001-832197 A1 20010411 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US27253, filed on 4 Oct 2000, UNKNOWN
PRAI US 1999-158044P 19991007 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11038
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 80 OF 136 USPATFULL
AN 2002:171946 USPATFULL
TI Kunitz-type protease inhibitor polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PI US 2002090695 A1 20020711
AI US 2001-858718 A1 20010517 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US31917, filed on 21 Nov 2000, UNKNOWN
PRAI US 1999-166751P 19991122 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12006
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 81 OF 136 USPATFULL
AN 2002:171925 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002090674 A1 20020711
AI US 2001-764903 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
DT Utility
FS APPLICATION

LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 21376
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 82 OF 136 USPATFULL
AN 2002:171924 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002090673 A1 20020711
AI US 2001-764898 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
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US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
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US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)

US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 25258
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 83 OF 136 USPATFULL
AN 2002:171923 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002090672 A1 20020711
AI US 2001-764853 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
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US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)

US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 35378
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 84 OF 136 USPATFULL
AN 2002:171629 USPATFULL
TI METHODS OF PRODUCING AND USING VIRULENCE ATTENUATED POXR MUTANT BACTERIA
IN KANIGA, KONE, ST. LOUIS, MO, UNITED STATES
SUNDARAM, PREETI, CHESTERFIELD, MO, UNITED STATES
PI US 2002090376 A1 20020711
US 6537558 B2 20030325
AI US 1997-829402 A1 19970331 (8)
DT Utility
FS APPLICATION
LREP THOMPSON COBURN, LLP, ONE FIRSTAR PLAZA, SUITE 3500, ST LOUIS, MO, 63101
CLMN Number of Claims: 42
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 1661
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 85 OF 136 USPATFULL
AN 2002:165194 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086823 A1 20020704
AI US 2001-764889 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17471
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 86 OF 136 USPATFULL
AN 2002:165193 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086822 A1 20020704
AI US 2001-764886 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)

US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
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US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
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US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20931
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 87 OF 136 USPATFULL
AN 2002:165192 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086821 A1 20020704
AI US 2001-764881 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24

ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 27531
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 88 OF 136 USPATFULL
AN 2002:165191 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086820 A1 20020704
AI US 2001-764862 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17727
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 89 OF 136 USPATFULL
AN 2002:165182 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086811 A1 20020704
AI US 2001-764861 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)

US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 22023
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 90 OF 136 USPATFULL
AN 2002:164735 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086353 A1 20020704
AI US 2001-764856 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
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US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)

US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
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US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 23314
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 91 OF 136 USPATFULL
AN 2002:164712 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002086330 A1 20020704
AI US 2001-764893 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)

US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
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US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 25862
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 92 OF 136 USPATFULL
AN 2002:164414 USPATFULL
TI Omp85 proteins of **neisseria** gonorrhoeae and **neisseria** meningitidis, compositions containing same and methods of use thereof
IN Judd, Ralph C., Florence, MT, UNITED STATES
Manning, D. Scott, Missoula, MT, UNITED STATES
PI US 2002086028 A1 20020704
AI US 2001-994192 A1 20011126 (9)
RLI Continuation of Ser. No. US 1998-177039, filed on 22 Oct 1998, PENDING
DT Utility
FS APPLICATION
LREP HOWSON AND HOWSON, ONE SPRING HOUSE CORPORATION CENTER, BOX 457, 321 NORRISTOWN ROAD, SPRING HOUSE, PA, 19477
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 10 Drawing Page(s)
LN.CNT 2013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 93 OF 136 USPATFULL
AN 2002:157060 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002081659 A1 20020627
AI US 2001-925297 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5989, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850

CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20326
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 94 OF 136 USPATFULL
AN 2002:157008 USPATFULL
TI Four disulfide core domain-containing (FDCD) polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002081607 A1 20020627
AI US 2001-874062 A1 20010606 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US32462, filed on 29 Nov 2000, UNKNOWN
PRAI US 1999-168229P 19991201 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11572
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 95 OF 136 USPATFULL
AN 2002:149306 USPATFULL
TI ADAM polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002077465 A1 20020620
AI US 2001-945676 A1 20010905 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US5497, filed on 22 Feb 2001, UNKNOWN
PRAI US 2000-187937P 20000303 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12287
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 96 OF 136 USPATFULL
AN 2002:149299 USPATFULL
TI Death domain-containing receptor polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002077458 A1 20020620
AI US 2001-835788 A1 20010417 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US28666, filed on 17 Oct 2000, UNKNOWN
PRAI US 1999-159585P 19991018 (60)
US 1999-167246P 19991124 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 14143

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 97 OF 136 USPATFULL
AN 2002:149131 USPATFULL
TI 28 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Li, Yi, Sunnyvale, CA, UNITED STATES
Zeng, Zhizhen, Lansdale, PA, UNITED STATES
Kyaw, Hla, Frederick, MD, UNITED STATES
Fischer, Carrie L., Burke, VA, UNITED STATES
Li, Haodong, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Wei, Ying-Fei, Berkeley, CA, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Greene, John M., Gaithersburg, MD, UNITED STATES
Ferrie, Ann M., Tewksbury, MA, UNITED STATES
PI US 2002077287 A1 20020620
AI US 2001-852659 A1 20010511 (9)
RLI Continuation-in-part of Ser. No. US 1998-152060, filed on 11 Sep 1998, UNKNOWN
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17779
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 98 OF 136 USPATFULL
AN 2002:149114 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002077270 A1 20020620
AI US 2001-764848 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)

US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20057
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 99 OF 136 USPATFULL
AN 2002:148614 USPATFULL
TI 28 human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Li, Yi, Sunnyvale, CA, UNITED STATES
Zeng, ZhiZhen, Lansdale, PA, UNITED STATES
Kyaw, Hla, Frederick, MD, UNITED STATES
Fischer, Carrie L., Burke, VA, UNITED STATES
Li, Haodong, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Wei, Ying-Fei, Berkeley, CA, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Greene, John M., Gaithersburg, MD, UNITED STATES
Ferrie, Ann M., Painted Post, NY, UNITED STATES
PI US 2002076756 A1 20020620
AI US 2001-853161 A1 20010511 (9)
PRAI US 2001-265583P 20010202 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 17788
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 100 OF 136 USPATFULL
AN 2002:144099 USPATFULL
TI Plants and plant cells expressing histidine tagged intimin
IN Stewart, Jr., C. Neal, Greensboro, NC, United States
McKee, Marian L., Great Falls, VA, United States
O'Brien, Alison D., Bethesda, MD, United States
Wachtel, Marian R., Gaithersburg, MD, United States
PA Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6406885 B1 20020618
AI US 2000-696188 20001026 (9)
RLI Division of Ser. No. US 1997-840466, filed on 18 Apr 1997, now patented, Pat. No. US 6261561
PRAI US 1996-15938P 19960422 (60)
US 1996-15657P 19960419 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Navarro, Mark; Assistant Examiner: Portner, Ginny Allen
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 2819
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 101 OF 136 USPATFULL
AN 2002:141609 USPATFULL
TI Transferrin polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002072596 A1 20020613
AI US 2001-891126 A1 20010626 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US34769, filed on 21 Dec 2000, UNKNOWN
PRAI US 1999-171595P 19991223 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12048
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 102 OF 136 USPATFULL
AN 2002:141109 USPATFULL
TI Death domain containing receptor 5
IN Ni, Jian, Rockville, MD, UNITED STATES
Gentz, Reiner L., Rockville, MD, UNITED STATES
Yu, Guo-Liang, Berkeley, CA, UNITED STATES
Rosen, Craig A., Laytonville, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD, 20850 (U.S. corporation)
PI US 2002072091 A1 20020613
AI US 2001-874138 A1 20010606 (9)
RLI Continuation of Ser. No. US 2000-565009, filed on 4 May 2000, PENDING
Continuation of Ser. No. US 1998-42583, filed on 17 Mar 1998, PENDING
PRAI US 1999-148939P 19990813 (60)
US 1999-133238P 19990507 (60)
US 1999-132498P 19990504 (60)
US 1997-40846P 19970317 (60)
US 1997-54021P 19970729 (60)
DT Utility
FS APPLICATION

LREP STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 NEW YORK AVENUE, N.W., SUITE 600, WASHINGTON, DC, 20005-3934
CLMN Number of Claims: 97
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 8943
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 103 OF 136 USPATFULL
AN 2002:137146 USPATFULL
TI Antibodies to neutrokine-alpha
IN Yu, Guo-Liang, Berkeley, CA, United States
Ebner, Reinhard, Gaithersburg, MD, United States
Ni, Jian, Rockville, MD, United States
Rosen, Craig A., Laytonsville, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
PI US 6403770 B1 20020611
AI US 2000-589287 20000608 (9)
RLI Continuation of Ser. No. US 2000-507968, filed on 22 Feb 2000
Continuation-in-part of Ser. No. US 1999-255794, filed on 23 Feb 1999
Continuation-in-part of Ser. No. US 1998-5874, filed on 12 Jan 1998
Continuation-in-part of Ser. No. WO 1996-US17957, filed on 25 Oct 1996
PRAI US 2000-176015P 20000114 (60)
US 1999-171626P 19991223 (60)
US 1999-171108P 19991216 (60)
US 1999-168624P 19991203 (60)
US 1999-167239P 19991124 (60)
US 1999-145824P 19990727 (60)
US 1999-142659P 19990706 (60)
US 1999-136784P 19990528 (60)
US 1999-131673P 19990429 (60)
US 1999-131278P 19990427 (60)
US 1999-130696P 19990423 (60)
US 1999-130412P 19990416 (60)
US 1999-127598P 19990402 (60)
US 1999-126599P 19990326 (60)
US 1999-124097P 19990312 (60)
US 1999-122388P 19990302 (60)
US 1997-36100P 19970114 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Kunz, Gary L.; Assistant Examiner: Prasad, Sarada C
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 292
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 22 Drawing Page(s)
LN.CNT 15430
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 104 OF 136 USPATFULL
AN 2002:136784 USPATFULL
TI Staphylococcus aureus genes and polypeptides
IN Bailey, Camella, Washington, DC, United States
Choi, Gil H., Rockville, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
PI US 6403337 B1 20020611
AI US 2000-512255 20000224 (9)
RLI Continuation-in-part of Ser. No. WO 1999-US19726, filed on 31 Aug 1999
Continuation-in-part of Ser. No. US 1997-956171, filed on 20 Oct 1997
Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan 1997
Continuation-in-part of Ser. No. US 1997-781986, filed on 5 Jan 1997
Continuation-in-part of Ser. No. US 1997-781986, filed on 5 Jan 1997

DT Utility
FS GRANTED
EXNAM Primary Examiner: Brusca, John S.
LREP Human Genome Sciences, Inc.
CLMN Number of Claims: 65
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 6784
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 105 OF 136 USPATFULL
AN 2002:133469 USPATFULL
TI Serine protease polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PI US 2002068320 A1 20020606
AI US 2001-804156 A1 20010313 (9)
PRAI US 2000-189025P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 13119
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 106 OF 136 USPATFULL
AN 2002:126703 USPATFULL
TI Immunoglobulin superfamily polynucleotides, polypeptides, and antibodies
IN Young, Paul E., Gaithersburg, MD, UNITED STATES
Ni, Jain, Rockville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002065220 A1 20020530
AI US 2001-799514 A1 20010307 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US23662, filed on 29 Aug 2000, UNKNOWN
PRAI US 1999-152248P 19990903 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 107 OF 136 USPATFULL
AN 2002:126332 USPATFULL
TI Human protein tyrosine phosphatase polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002064844 A1 20020530
AI US 2001-906779 A1 20010718 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US1563, filed on 17 Jan 2001, UNKNOWN
PRAI US 2000-176306P 20000118 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22

ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12129
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 108 OF 136 USPATFULL
AN 2002:126314 USPATFULL
TI Cytokine receptor-like polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002064826 A1 20020530
AI US 2001-874069 A1 20010606 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US32525, filed on 30 Nov 2000, UNKNOWN
PRAI US 1999-168621P 19991203 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12089
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 109 OF 136 USPATFULL
AN 2002:126306 USPATFULL
TI 52 human secreted proteins
IN Ni, Jian, Germantown, MD, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES
Fiscella, Michele, Bethesda, MD, UNITED STATES
Komatsoulis, George A., Silver Spring, MD, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Duan, D. Roxanne, Bethesda, MD, UNITED STATES
Olsen, Henrik S., Gaithersburg, MD, UNITED STATES
LaFleur, David W., Washington, DC, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Wei, Ping, Brookeville, MD, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
PI US 2002064818 A1 20020530
AI US 2001-789561 A1 20010222 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US24008, filed on 31 Aug 2000, UNKNOWN
PRAI US 1999-152317P 19990903 (60)
US 1999-152315P 19990903 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 24623
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 110 OF 136 USPATFULL
AN 2002:116007 USPATFULL
TI Identifying compounds inhibiting DC-sign facilitation of HIV into cells
IN Littman, Dan R., New York, NY, United States

Kwon, Douglas, Long Island City, NY, United States
Van Kooyk, Yvette, Nijmegen, NETHERLANDS
Geijtenbeek, Teunis, Nijmegen, NETHERLANDS
PA New York University, New York, NY, United States (U.S. corporation)
PI US 6391567 B1 20020521
AI US 2000-517605 20000302 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Crouch, Deborah; Assistant Examiner: Ton, Thaian N.
LREP Klauber & Jackson, Gregg, Valeta
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 32 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 3439
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 111 OF 136 USPATFULL
AN 2002:106416 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002055627 A1 20020509
US 2003040617 A9 20030227
AI US 2001-925299 A1 20010810 (9)
RLI Continuation of Ser. No. WO 2000-US5883, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20658
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 112 OF 136 USPATFULL
AN 2002:105937 USPATFULL
TI Major intrinsic protein (MIP)-like polynucleotides, polypeptides, and antibodies
IN Ruben, Steven A., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
PA Human Genome Sciences, Inc., Rockville, MD (U.S. corporation)
PI US 2002055142 A1 20020509
AI US 2001-862419 A1 20010523 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US31919, filed on 21 Nov 2000, UNKNOWN
PRAI US 1999-167247P 19991124 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11747
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 113 OF 136 USPATFULL
AN 2002:99407 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002052308 A1 20020502
AI US 2001-925301 A1 20010810 (9)
RLI Continuation of Ser. No. WO 2000-US5882, filed on 8 Mar 2000, UNKNOWN

PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 30577
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 114 OF 136 USPATFULL
AN 2002:99088 USPATFULL
TI Kringle domain-containing polynucleotides, polypeptides, and antibodies
IN Ni, Jian, Germantown, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002051984 A1 20020502
AI US 2001-848288 A1 20010504 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US30664, filed on 8 Nov 2000, UNKNOWN
PRAI US 1999-164853P 19991112 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings.
LN.CNT 12041
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 115 OF 136 USPATFULL
AN 2002:95578 USPATFULL
TI Method of transferring at least two saccharide units with a polyglycosyltransferase
IN Johnson, Karl F., Willow Grove, PA, United States
Roth, Stephen, Gladwyne, PA, United States
Buczala, Stephanie L., Jenkintown, PA, United States
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)
PI US 6379933 B1 20020430
AI US 1999-338943 19990624 (9)
RLI Continuation of Ser. No. US 1995-478140, filed on 7 Jun 1995, now patented, Pat. No. US 6127153
DT Utility
FS GRANTED
EXNAM Primary Examiner: Prats, Francisco
LREP Morgan, Lewis & Bockius, LLP
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 1220
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 116 OF 136 USPATFULL
AN 2002:85190 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Rubin, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002045230 A1 20020418
AI US 2001-908711 A1 20010720 (9)
RLI Continuation-in-part of Ser. No. WO 2001-US1360, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764867, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1344, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764892,

filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1345, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764888, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1329, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764905, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764891, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1339, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764869, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1340, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764874, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1334, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764898, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1320, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764853, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764902, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1239, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764870, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1348, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764882, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1347, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764896, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1307, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764864, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1341, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764856, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1336, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. US 2001-764868, filed on 17 Jan 2001, UNKNOWN Continuation-in-part of Ser. No. WO 2001-US1312, filed on 17 Jan 2001, UNKNOWN

PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-251868P 20001208 (60)
US 2000-232398P 20000914 (60)
US 2000-249300P 20001117 (60)
US 2000-251990P 20001208 (60)
US 2000-250160P 20001201 (60)
US 2000-209467P 20000607 (60)
US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)

US 2000-232398P 20000914 (60)
US 2000-234998P 20000925 (60)
US 2000-246477P 20001108 (60)
US 2000-246528P 20001108 (60)
US 2000-246525P 20001108 (60)
US 2000-246476P 20001108 (60)
US 2000-246526P 20001108 (60)
US 2000-249209P 20001117 (60)
US 2000-246527P 20001108 (60)
US 2000-246523P 20001108 (60)
US 2000-246524P 20001108 (60)
US 2000-246478P 20001108 (60)
US 2000-246609P 20001108 (60)
US 2000-246613P 20001108 (60)
US 2000-249300P 20001117 (60)
US 2000-249265P 20001117 (60)
US 2000-246610P 20001108 (60)
US 2000-246611P 20001108 (60)
US 2000-230437P 20000906 (60)
US 2000-251990P 20001208 (60)
US 2000-251988P 20001205 (60)
US 2000-251030P 20001205 (60)
US 2000-251479P 20001206 (60)
US 2000-256719P 20001205 (60)
US 2000-250160P 20001201 (60)
US 2000-251989P 20001208 (60)
US 2000-250391P 20001201 (60)
US 2000-254097P 20001211 (60)
US 2000-231968P 20000912 (60)
US 2000-226279P 20000818 (60)
US 2000-186350P 20000302 (60)
US 2000-184664P 20000224 (60)
US 2000-189874P 20000316 (60)
US 2000-198123P 20000418 (60)
US 2000-227009P 20000823 (60)
US 2000-235484P 20000926 (60)
US 2000-190076P 20000317 (60)
US 2000-209467P 20000607 (60)
US 2000-205515P 20000519 (60)
US 2001-259678P 20010105 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 24462
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 117 OF 136 USPATFULL
AN 2002:84902 USPATFULL
TI Nucleic acids, proteins and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002044941 A1 20020418
US 2003064072 A9 20030403
AI US 2001-925302 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5918, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23

ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 21121
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 118 OF 136 USPATFULL
AN 2002:78729 USPATFULL
TI Nucleic acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
PI US 2002042386 A1 20020411
AI US 2001-764870 A1 20010117 (9)
PRAI US 2000-179065P 20000131 (60)
US 2000-180628P 20000204 (60)
US 2000-214886P 20000628 (60)
US 2000-217487P 20000711 (60)
US 2000-225758P 20000814 (60)
US 2000-220963P 20000726 (60)
US 2000-217496P 20000711 (60)
US 2000-225447P 20000814 (60)
US 2000-218290P 20000714 (60)
US 2000-225757P 20000814 (60)
US 2000-226868P 20000822 (60)
US 2000-216647P 20000707 (60)
US 2000-225267P 20000814 (60)
US 2000-216880P 20000707 (60)
US 2000-225270P 20000814 (60)
US 2000-251869P 20001208 (60)
US 2000-235834P 20000927 (60)
US 2000-234274P 20000921 (60)
US 2000-234223P 20000921 (60)
US 2000-228924P 20000830 (60)
US 2000-224518P 20000814 (60)
US 2000-236369P 20000929 (60)
US 2000-224519P 20000814 (60)
US 2000-220964P 20000726 (60)
US 2000-241809P 20001020 (60)
US 2000-249299P 20001117 (60)
US 2000-236327P 20000929 (60)
US 2000-241785P 20001020 (60)
US 2000-244617P 20001101 (60)
US 2000-225268P 20000814 (60)
US 2000-236368P 20000929 (60)
US 2000-251856P 20001208 (60)
US 2000-251868P 20001208 (60)
US 2000-229344P 20000901 (60)
US 2000-234997P 20000925 (60)
US 2000-229343P 20000901 (60)
US 2000-229345P 20000901 (60)
US 2000-229287P 20000901 (60)
US 2000-229513P 20000905 (60)
US 2000-231413P 20000908 (60)
US 2000-229509P 20000905 (60)
US 2000-236367P 20000929 (60)
US 2000-237039P 20001002 (60)
US 2000-237038P 20001002 (60)
US 2000-236370P 20000929 (60)
US 2000-236802P 20001002 (60)
US 2000-237037P 20001002 (60)
US 2000-237040P 20001002 (60)
US 2000-240960P 20001020 (60)
US 2000-239935P 20001013 (60)
DT Utility

FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 23133
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 119 OF 136 USPATFULL
AN 2002:78715 USPATFULL
TI Stanniocalcin polynucleotides, polypeptides, and methods based thereon
IN Olsen, Henrik S., Gaithersburg, MD, UNITED STATES
Zhang, Ke-Zhou, Brussels, BELGIUM
Lindsberg, Perttu, Helsinki, FINLAND
Tatlisumak, Turgut, Helsinki, FINLAND
Kaste, Markku, Vantaa, FINLAND
Andersson, Leif C., Helsinki, FINLAND
PA Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)
PI US 2002042372 A1 20020411
AI US 2001-840989 A1 20010425 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US29432, filed on 26 Oct 2000, UNKNOWN
PRAI US 1999-161740P 19991027 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 47
ECL Exemplary Claim: 1
DRWN 12 Drawing Page(s)
LN.CNT 9559
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 120 OF 136 USPATFULL
AN 2002:72627 USPATFULL
TI Nucleic, acids, proteins, and antibodies
IN Rosen, Craig A., Laytonsville, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002039764 A1 20020404
AI US 2001-925298 A1 20010810 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US5881, filed on 8 Mar 2000, UNKNOWN
PRAI US 1999-124270P 19990312 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20087
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 121 OF 136 USPATFULL
AN 2002:66896 USPATFULL
TI ABC transport polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Ni, Jian, Germantown, MD, UNITED STATES
Moore, Paul A., Germantown, MD, UNITED STATES
PI US 2002037549 A1 20020328
AI US 2001-767870 A1 20010124 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US19736, filed on 20 Jul 2000, UNKNOWN
PRAI US 1999-145215P 19990723 (60)
US 1999-149445P 19990818 (60)

US 1999-164730P 19991112 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12219
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 122 OF 136 USPATFULL
AN 2002:66870 USPATFULL
TI IL-6-like polynucleotides, polypeptides, and antibodies
IN Ruben, Steven M., Olney, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
PI US 2002037523 A1 20020328
AI US 2001-875016 A1 20010607 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US33134, filed on 7 Dec 2000, UNKNOWN
PRAI US 1999-169838P 19991209 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11587
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 123 OF 136 USPATFULL
AN 2002:50802 USPATFULL
TI Computer readable genomic sequence of Haemophilus influenzae Rd, fragments thereof, and uses thereof
IN Fleischmann, Robert D., Gaithersburg, MD, United States
Adams, Mark D., N. Potomac, MD, United States
White, Owen, Gaithersburg, MD, United States
Smith, Hamilton O., Towson, MD, United States
Venter, J. Craig, Potomac, MD, United States
PA Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)
PI US 6355450 B1 20020312
AI US 1995-476102 19950607 (8)
RLI Continuation-in-part of Ser. No. US 1995-426787, filed on 21 Apr 1995, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Campell, Bruce R.
CLMN Number of Claims: 88
ECL Exemplary Claim: 1
DRWN 47 Drawing Figure(s); 47 Drawing Page(s)
LN.CNT 4666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 124 OF 136 USPATFULL
AN 2002:48258 USPATFULL
TI 26 Human secreted proteins
IN Ruben, Steven M., Olney, MD, UNITED STATES
Birse, Charles E., North Potomac, MD, UNITED STATES
Duan, Roxanne D., Bethesda, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Shi, Yanggu, Gaithersburg, MD, UNITED STATES
LaFleur, David W., Washington, DC, UNITED STATES
Olsen, Henrik, Gaithersburg, MD, UNITED STATES

Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Florence, Kimberly A., Rockville, MD, UNITED STATES
Ni, Jian, Rockville, MD, UNITED STATES
Young, Paul, Gaithersburg, MD, UNITED STATES
PI US 2002028449 A1 20020307
AI US 2000-726643 A1 20001201 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US15187, filed on 2 Jun 2000, UNKNOWN
PRAI US 1999-137725P 19990607 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 20287
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 125 OF 136 USPATFULL
AN 2002:22131 USPATFULL
TI 18 Human secreted proteins
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002012966 A1 20020131
AI US 2001-768826 A1 20010125 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US22350, filed on 15 Aug 2000, UNKNOWN
PRAI US 1999-148759P 19990816 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 18157
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 126 OF 136 USPATFULL
AN 2002:19176 USPATFULL
TI Method of detecting shigella and shigella mxiM DNA
IN Schuch, Raymond, Washington, DC, United States
Sandlin, Robin C., Columbia, MD, United States
Maurelli, Anthony T., Silver Spring, MD, United States
PA The Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD, United States (U.S. corporation)
PI US 6342352 B1 20020129
AI US 1999-296670 19990422 (9)
PRAI US 1998-82944P 19980424 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Devi, S.
LREP Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)
LN.CNT 2019
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 127 OF 136 USPATFULL
AN 2002:12261 USPATFULL
TI Uteroglobin-like polynucleotides, polypeptides, and antibodies

IN Ni, Jian, Germantown, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002006640 A1 20020117
AI US 2001-846258 A1 20010502 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US30326, filed on 3 Nov 2000, UNKNOWN
PRAI US 1999-163395P 19991104 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 12076
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 128 OF 136 USPATFULL
AN 2002:12031 USPATFULL
TI HISTIDINE-TAGGED INTIMIN AND METHODS OF USING INTIMIN TO STIMULATE AN IMMUNE RESPONSE AND AS AN ANTIGEN CARRIER WITH TARGETING CAPABILITY
IN MCKEE, MARIAN L., GREAT FALLS, VA, UNITED STATES
O'BRIEN, ALISON D., BETHESDA, MD, UNITED STATES
WACHTEL, MARIAN R., GAITHERSBURG, MD, UNITED STATES
PA Henry M. Jackson Foundation for the Advancement of Military Medicine (U.S. corporation)
PI US 2002006407 A1 20020117
AI US 1997-837459 A1 19970418 (8)
PRAI US 1996-15657P 19960419 (60)
US 1996-15936P 19960422 (60)
DT Utility
FS APPLICATION
LREP FINNEGAN HENDERSON FARABOW GARRETT &, DUNNER, 1300 I STREET NW, WASHINGTON, DC, 200053315
CLMN Number of Claims: 50
ECL Exemplary Claim: 1
DRWN 18 Drawing Page(s)
LN.CNT 2287
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 129 OF 136 USPATFULL
AN 2002:9854 USPATFULL
TI Vectors and methods for immunization or therapeutic protocols
IN Krieg, Arthur M., Iowa City, IA, United States
Davis, Heather L., Ottawa, CANADA
Wu, Tong, Hull, CANADA
Schorr, Joachim, Hilden, GERMANY, FEDERAL REPUBLIC OF
PA University of Iowa Research Foundation, Iowa City, IA, United States (U.S. corporation)
Loeb Health Research Institute at the Ottawa Hospital, Ottawa, CANADA (non-U.S. corporation)
Coley Pharmaceutical GmbH, Langenfeld, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)
PI US 6339068 B1 20020115
AI US 1998-82649 19980520 (9)
PRAI US 1997-47209P 19970520 (60)
US 1997-47233P 19970520 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Nguyen, Dave T.
LREP Wolf, Greenfield & Sacks, P. C.
CLMN Number of Claims: 109
ECL Exemplary Claim: 1
DRWN 15 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 4069

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 130 OF 136 USPATFULL
AN 2002:8489 USPATFULL
TI Retinoid receptor interacting polynucleotides, polypeptides, and antibodies
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002004489 A1 20020110
AI US 2001-788600 A1 20010221 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US22351, filed on 15 Aug 2000, UNKNOWN
PRAI US 1999-148757P 19990816 (60)
US 2000-189026P 20000314 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 11257
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 131 OF 136 USPATFULL
AN 2000:131625 USPATFULL
TI Method of transferring at least two saccharide units with a polyglycosyltransferase, a polyglycosyltransferase and gene encoding a polyglycosyltransferase
IN Johnson, Karl F., Willow Grove, PA, United States
Roth, Stephen, Gladwyne, PA, United States
Buczala, Stephanie L., Jenkintown, PA, United States
PA Neose Technologies, Inc., Horsham, PA, United States (U.S. corporation)
PI US 6127153 20001003
AI US 1995-478140 19950607 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Prats, Francisco
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 10 Drawing Figure(s); 10 Drawing Page(s)
LN.CNT 1270
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 132 OF 136 USPATFULL
AN 2000:102420 USPATFULL
TI Lactobacilli harboring aggregation gene as a **vaccine** delivery vehicle
IN Casas, Ivan, Raleigh, NC, United States
Jonsson, Hans, Uppsala, Sweden
Mollstam, Bo, Lerum, Sweden
Roos, Stefan, Uppsala, Sweden
PA BioGaia Biologies AB, Stockholm, Sweden (non-U.S. corporation)
PI US 6100388 20000808
AI US 1998-39773 19980316 (9)
DT Utility
FS Granted
EXNAM Primary Examiner: Minnifield, Nita
LREP Standley & Gilcrest LLP
CLMN Number of Claims: 1
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1170
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 133 OF 136 USPATFULL
AN 2000:24298 USPATFULL
TI Mucosal immunogens for novel **vaccines**
IN Russell, Michael William, Birmingham, AL, United States
Hajishengallis, Georgios, Birmingham, AL, United States
Hollingshead, Susan K., Birmingham, AL, United States
Wu, Hong-Yin, Hoover, AL, United States
Michalek, Suzanne Mary, Birmingham, AL, United States
PA UAB Research Foundation, Birmingham, AL, United States (U.S. corporation)
PI US 6030624 20000229
AI US 1997-912180 19970815 (8)
PRAI US 1996-24074P 19960816 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Mosher, Mary E.
LREP Adler, Benjamin Aaron
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 25 Drawing Figure(s); 26 Drawing Page(s)
LN.CNT 1925
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 134 OF 136 USPATFULL
AN 1998:139022 USPATFULL
TI Polypeptides and antibodies useful for the diagnosis and treatment of pathogenic **neisseria** and other microorganisms having type 4 pilin
IN Normark, Staffan, Clayton, MO, United States
Jonsson, Ann-Beth, Umea, Sweden
PA Washington University, St. Louis, MO, United States (U.S. corporation)
PI US 5834591 19981110
AI US 1995-415788 19950403 (8)
RLI Continuation of Ser. No. US 1992-829465, filed on 31 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-648781, filed on 31 Jan 1991, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sidberry, Hazel F.
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 18 Drawing Figure(s); 18 Drawing Page(s)
LN.CNT 3804
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12 ANSWER 135 OF 136 USPATFULL
AN 1998:128130 USPATFULL
TI Shigella vector for delivering DNA to a mammalian cell
IN Branstrom, Arthur A., Rockville, MD, United States
Sizemore, Donata R., Gaithersburg, MD, United States
Sadoff, Jerald C., Washington, DC, United States
PA The United States of America as represented by the Secretary of the Army, Washington, DC, United States (U.S. government)
PI US 5824538 19981020
AI US 1995-523855 19950906 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Lankford, Jr., Leon B.; Assistant Examiner: Tate, Christopher R.
LREP Harris, Charles H., Moran, John Francis
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 4 Drawing Page(s)

LN.CNT 1304

L12 ANSWER 136 OF 136 USPATFULL
AN 95:13604 USPATFULL
TI Avirulent microbes and uses therefor
IN Gurtiss, III, Roy, St. Louis, MO, United States
PA Washington University, St. Louis, MO, United States (U.S. corporation)
PI US 5389368 19950214
AI US 1992-965607 19921022 (7)
DCD 20110315
RLI Continuation of Ser. No. US 1988-200934, filed on 1 Jun 1988, now abandoned which is a continuation-in-part of Ser. No. US 1987-58360, filed on 4 Jun 1987, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Low, Christopher S. F.
LREP Rogers, Howell & Haferkamp
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 8 Drawing Figure(s); 8 Drawing Page(s)
LN.CNT 2106
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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Executing the logoff script...

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	294.45	337.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-0.65

STN INTERNATIONAL LOGOFF AT 14:03:04 ON 28 APR 2003